PATTERN MAKING FOR MENSWEAR

Gareth Kershaw

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CONTENTS

INTRODUCTION 7

PATTERNMAKING IN CONTEMPORARY MENSWEAR 8

CHAPTER ONE

PREPARATION FOR PATTERNMAKING

TOOLS AND EQUIPMENT 18

STUDIO PRACTICE 20

MEASURING THE MALE FIGURE 24

TAKING MEASUREMENTS 26

DRESS FORMS 30

FIT MODELS 31

SIZE CHARTS 32

CHAPTER TWO

THE PATTERNMAKING PROCESS

THE DEVELOPMENT OF THE DESIGN 36

BASIC UPPER BODY SLOPER 40

BASIC SLEEVE SLOPER 42

BASIC PANT SLOPER 45

CREATING A MASTER PLAN 48

HOW TO TRACE OFF A PATTERN 50

GRADING 52

PRINCIPLES OF PATTERNMAKING 57

USING TECHNOLOGY 68

CHAPTER THREE

THE PATTERNS: SHIRTS

LONG-SLEEVED COLLARLESS SHIRT 74

SHORT-SLEEVED POLO SHIRT 80

HOODED SWEATSHIRT 88

CASUAL LONG-SLEEVED SHIRT 104

LUMBERJACK SHIRT 116

SHORT-SLEEVED SAFARI SHIRT 126

BIB SHIRT 138

CHAPTER FOUR

THE PATTERNS: PANTS

HIGH-WAISTED PANTS 150

CHINOS 158

BASIC SWEATPANTS 168

TAILORED SHORTS 176

CARGO PANTS 186

JEANS 196

CHAPTER FIVE

THE PATTERNS: OUTERWEAR

ANORAK 206

FITTED DENIM JACKET 220

TRENCH COAT 232

SINGLE-BREASTED JACKET 252

DOUBLE-BREASTED JACKET 268

WAXED JACKET 288

PARKA 302

GLOSSARY 316

INDEX 318

FURTHER READING

PICTURE CREDITS

ACKNOWLEDGMENTS 320

INTRODUCTION

Contemporary menswear has evolved from a staple of traditional silhouettes and styles. The development of these styles has been directly influenced by social, economic, and cultural requirements, played out through the many roles men have inherited: formal clothing, workwear, leisure-, and activewear. The boundaries of these styles are less clearly defined than in previous decades as trends move and change as quickly as seasons pass—from Fall/Winter to Spring/Summer. Again and again the cyclical nature of the fashion industry throws up reinterpretations of classic silhouettes.

Patternmaking as a craft is integral to the whole fashion production process, linking the designer's concepts—a two-dimensional illustration—with the three-dimensional realization of shape-making, proportions, and silhouettes. Very few people who study fashion end up specializing in pattern technology and many who practice it have come from other disciplines. The holistic nature of the fashion industry increasingly requires practitioners to have a broad understanding and experience of most, if not all, the stages involved in the creation of clothes. A designer or practitioner who can research and conceptualize ideas, cut patterns and identify their target sizing, construct and technically finish a garment, develop, market, and sell their product will be able to direct their team and product to a satisfactory conclusion. A broad skills base is needed to succeed in today's fashion industry.

This book uses generic menswear garment styles to teach the principles of pattern construction that will be encountered throughout the fashion industry. Each pattern not only offers a selection of shapes and design hints but also explores the related techniques associated with its construction and development. Working your way through each section will build your knowledge, allowing you to further explore and adapt generic styles.

Most designers / labels work toward a set of predetermined body measurements (the target consumer) or an industry-acquired size chart. These are used in conjunction with a human fit model or a size-specific dress form or mannequin. Chapter 1 discusses how to take measurements to create your own size chart or use the industry charts provided. It highlights the importance of developing visual awareness of the landmark points used for taking measurements, which correlate to the human body in relationship to fit. The chapter also outlines studio practices related to sizing and technological advancements through computer-aided design (CAD) and its applications.

The designs for a garment style can be developed quickly by using the basic sloper, or block, template described at the beginning of Chapter 2. Tracing off the sloper and transferring the design development onto it creates a master plan. The master plan serves as a blueprint for the development. This process uses only half of the pattern sloper, thus eliminating possible duplication errors, which would result in an unbalanced pattern—the human body is generally seen as equal in proportion but not symmetrical. Even if your design is asymmetric, copying over the drafted shape to create the other side is a quick way to achieve the desired pattern style.

Where possible the different pattern pieces are kept proportional to one another but occasionally to show detail or to ensure that the text is readable this is not the case.

A modern interpretation of a classic icon, Woolrich Woolen Mills' "Balmac" trench coat. The company's use of original fabrics (Maxima Poplin) from the Woolrich looms emphasizes the functionality and detailed approach they take to creating outerwear.

PATTERNMAKING IN CONTEMPORARY MENSWEAR

***Patternmaking for Menswear* brings together a collection of patterns that have become established classics of contemporary men's fashion. By working on these garment silhouettes you will learn the basic principles needed for patternmaking. Using these styles as building blocks to explore ideas and your creative flare, you can interchange techniques and processes to develop new interpretations and solutions to your designs.**

To appreciate how far the exploration of shaping fabric to the human body has come, one needs to look at its origins. Contemporary patternmaking is intrinsically entwined with the history of fashion. The first notions of patterns as we now know them appeared in the West in the fifteenth century as men's silhouettes began to be redefined by the demands of social organizations such as the military, royal courts, and religious bodies. From these origins spring the two dominant forms of male dress construction: the first is characterized by the technique of draping and the second developed from the craft of shaping, currently known as tailoring. The latter, the most commonly used and popular technique, was to become highly prized. Guilds of tailors championed the profession and their craft was meticulously developed during the sixteenth to eighteenth centuries through numerous fitting sessions with an elite clientele in the ateliers of Western Europe. As with any craft, the greatest teacher is the practice itself: copious hours chalking, basting (loose stitching), pinning, and cutting the patterns for clients of every conceivable size and shape would develop the knowledge needed to call oneself a master cutter.

More complex forms of men's clothing evolved through cutting and shaping as coat and doublet styles developed into structured jackets with opened sleeves, worn with breeches. These were first documented as simple illustrated patterns in one of the earliest books on tailoring: Juan de Alcega's *Libro de Geometría Práctica y Traça* (Madrid, 1589). Three main periods followed which shaped the evolution of men's clothes through cut, fit, and construction, beginning with the civil wars of England and France in the seventeenth century. Clothes had to respond to turbulent times: there was a societal shift from softer fabrics to clothes produced from harsher, woolen cloth with the garment shapes made more rigid with more robust qualities that would survive the rigors of battle and the outdoor life. By the start of the eighteenth century, clothes began to reflect a more stable economic environment. The first garment of notoriety to be adopted by the aristocracy of Europe was referred to as a cassock or coat: It was a simple garment cut above the knee with two front panels and two back panels sewn to the waist with three-quarter sleeves. This style later included a collar and vented pleats and was made from silk or satin with flamboyant decorative details, creating a softer feminine silhouette. It was the forerunner of the clothing shapes we see today.

As the profession developed, M. de Garsault wrote the first serious manual to detail all the principles behind pattern construction and tailoring, *L Art du Tailleur,* published by the Académie Royale des Sciences, for the encyclopedia *Description des Arts et Métiers* (Paris, 1769). Garsault describes the whole procedure of making the coat from start to finish, beginning with the notion of measurement taking. He introduces the use of a thin strip of paper that was cut to the required length to record the parameters of an individual client's height and width, as well as detailing construction processes with illustrated patterns that accompanied the text. Later, in 1796, an English manual was published: *The Taylor's Complete Guide or a Comprehensive Analysis of Beauty and Elegance in Dress* presented a new way to perceive the art, not too dissimilar from the present format; instructions were given on how to draw the coat with measurements made directly onto the material by following a series of illustrated diagrams. These publications brought new audiences and extended the dialogue between practitioners and their clientele.

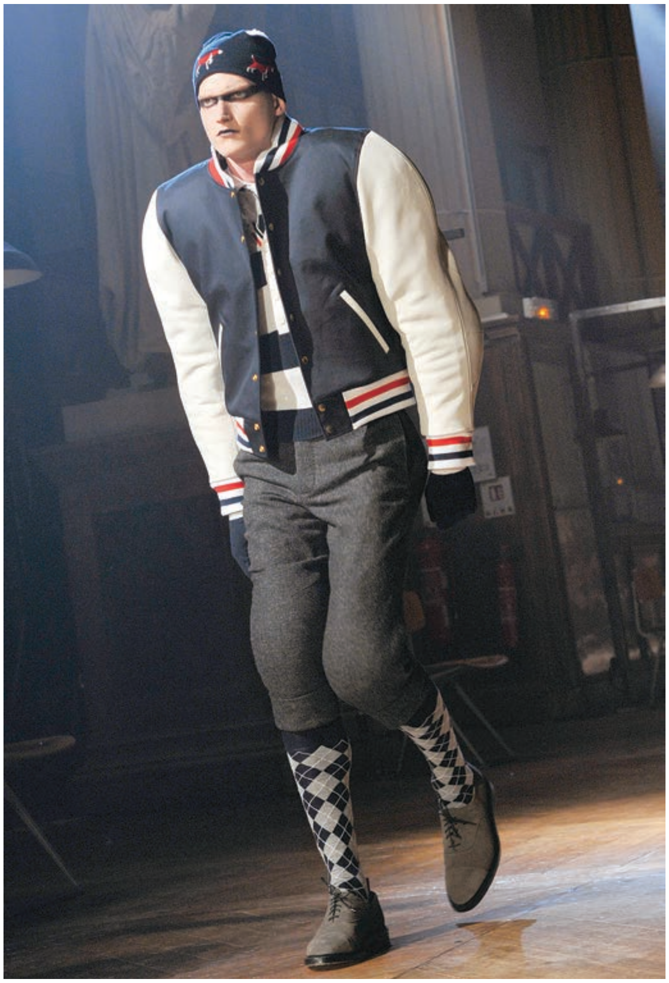
Issey Miyake interprets the idea of layering for men with a cape, Fall 2012 collection. Designed from the Japanese premise of "KASANE"—simple functionality for everyday life.

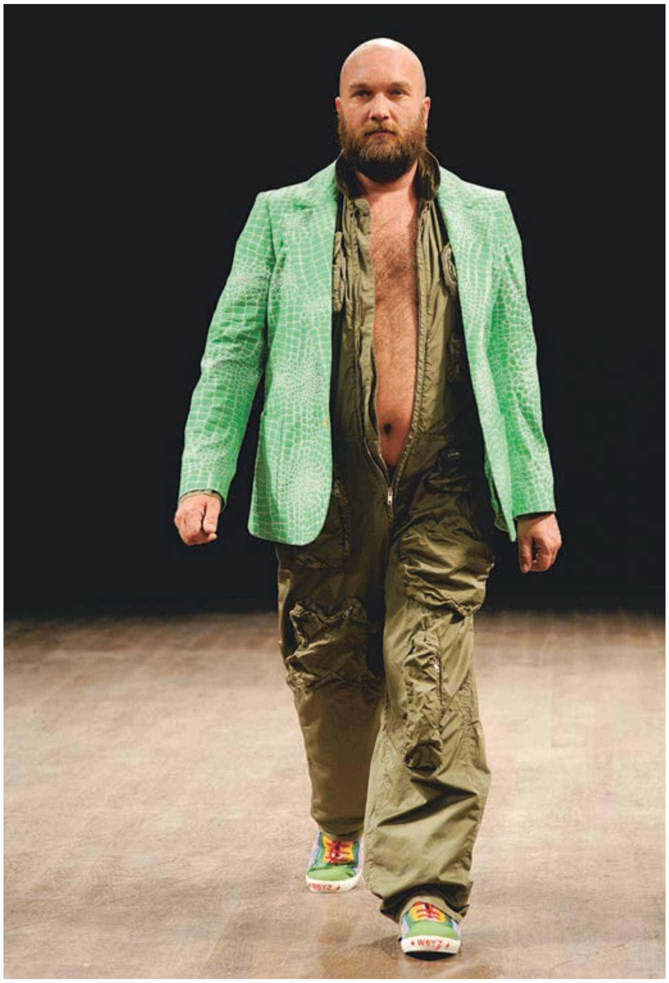
Modern patternmaking developed with the industrialization of sewing and the development of mechanical processes. From the start of the Industrial Revolution technology defined the way the clothing industry developed. Craftsmen and women invented labor-saving devices to increase production. As the cultural trend toward uniformity gathered pace, the demand for standardized clothing began to outstrip supply. Replication was needed and templates (patterns) for gentlemen's clothes began to be produced. Initial attempts resulted in poorly fitting garments; the sizing of patterns would take considerable experimentation before a recognized sizing system was achieved through the use of the newly conceived 1-yard measurement tape. Laid out in inches, this gave tailors a regulated tool to record human dimensions. From these observations a mathematical drafting system was conceived, which was based on both the principles of geometry and anatomical proportions.

In the first half of the nineteenth century numerous technical publications appeared to support the new drafting technique: *The Improved Tailor's Art* by J. Jacksons (1829), *Science Completed in the Art of Cutting* by W. Walker (1839), and *A Practical Guide for the Tailor's Cutting-Room* by J. Coutts. It was during this period, particularly in France, that technical training was established; Elisa Lemonnier opened one of the first professional schools in Paris to offer cutting and tailoring among its programs. Along with the demand for cheaper clothing, in 1860 the first mail order fashion catalogs to publish paper patterns appeared; the latest styles could be bought by the middle and working classes throughout Europe and the US, bringing the ability to produce cheaper clothing to a wider audience and creating a forerunner of the ready-to-wear genre.

At the beginning of the twentieth century the craft of tailoring began to divide into specialisms—designer, patternmaker, and seamstress. It is a working model that has survived to the present day, replicated in fashion houses and garment factories all over the world. Mass production brought duplication and the development of standard sizes but fit was still of crucial importance throughout the first half of the last century. Although clothing was preconstructed, the discerning gentleman would have it adapted to the sartorial fashions of his day. Alterations were made and silhouettes tailored through subtle changes to the cut, line, or proportion of the garment.

The process of standardization was then speeded up by the onset of the two World Wars, when standardized patterns





and size charts were needed to produce military uniforms for both officers and infantry alike. Clothing the army gave the garment industry an opportunity to review its procedures and attitudes toward sizing and construction, and this resulted in the formation of national registered organizations to regulate clothing production.

Away from the austerity of war, social hierarchy still demanded that a gentleman's wardrobe should have multiple dress options, even though a new era was dawning as the gender-role ideologies of the prewar period were vanquished and modernism was embraced. The 1950s brought a new approach to male dress, championed by a younger generation who rebelled against the constraints of tradition. With the growing influence of American youth cultures, formal attire with its stiff silhouettes began to lose its appeal. New modes of informal dressing appeared throughout towns and cities across Europe and America. Menswear producers responded to the growth in consumerism and this new attitude by importing or recreating foreign styles associated with music, film, or leisure activities (Italian tailoring, US varsity, German activewear). Relaxed attitudes toward life brought a new direction for men's fashion assisted by technological advances in textiles and the uses of synthetic materials to create easy-wear, functional clothing.

Opposite left: Yohji Yamamoto's enigmatic approach to masculinity is portrayed in a return to his signature oversize proportions at Paris Fashion Week 2008-09.

Opposite right: Italian sensibility crafted with technical design inspires C. P. Company's relaxed tailored garments at the Via Savona, Milan Fashion Week, Fall/Winter 2010.

Above left: A master of gender bending, Thom Browne's Fall/Winter 2012 menswear show questions masculine identity and its perceived role in society.

Above right: Walter Van Breirendock's Spring 2010 menswear collection challenges fashion orthodoxy. His burly-bodied biker models question our perception of masculinity.

Overleaf: Thom Browne's signature aesthetic, models wear uniformed tailored suits combining two-button jackets, Bermuda shorts, and knee-socks. Spring/Summer 2011 menswear show, Paris.

Young men sought to differentiate with the restrictive forms of dress associated with the modes of work their forefathers had done. Self-expression and an individualistic approach to dress would see previous historical notions of style redefined throughout the 1960s and 70s. Activewear would contribute immensely to shaping the future of men's style through the introduction of lifestyle branding and the public promotion of health through sport. Formal, casual, leisure, sports, active, work, military, and business clothing styles are today combined together in an eclectic attempt to redefine the ideologies of fashion. The modern man's closet comprises many different clothing styles, shapes, fabrics, colors, and textures, forming an eclectic mix of creative ideas for different occasions (workwear, formalwear, sportswear, and casualwear). No longer is the contemporary male restricted by the social stereotypes of a previous generation. The phenomenon of men's ready-to-wear (after 1980) brought a new perspective; men's fashion found a new language—individualism—liberated through globalized choice and the breaking down of sexual stereotypes. With the rise of new men's fashion journals and magazines such as *The Face* and *I-D*, and the reinvention of established titles such as *Esquire*, *GQ*, and *Uomo Vogue*, new avenues were opened. Strict codes of dress are no longer adhered to; advertising and the media have broken the social molds and helped to redefine the boundaries of how a man wants to dress. Social acceptance is less of a concern; rebellion has become the way to invigorate and refresh what came before.

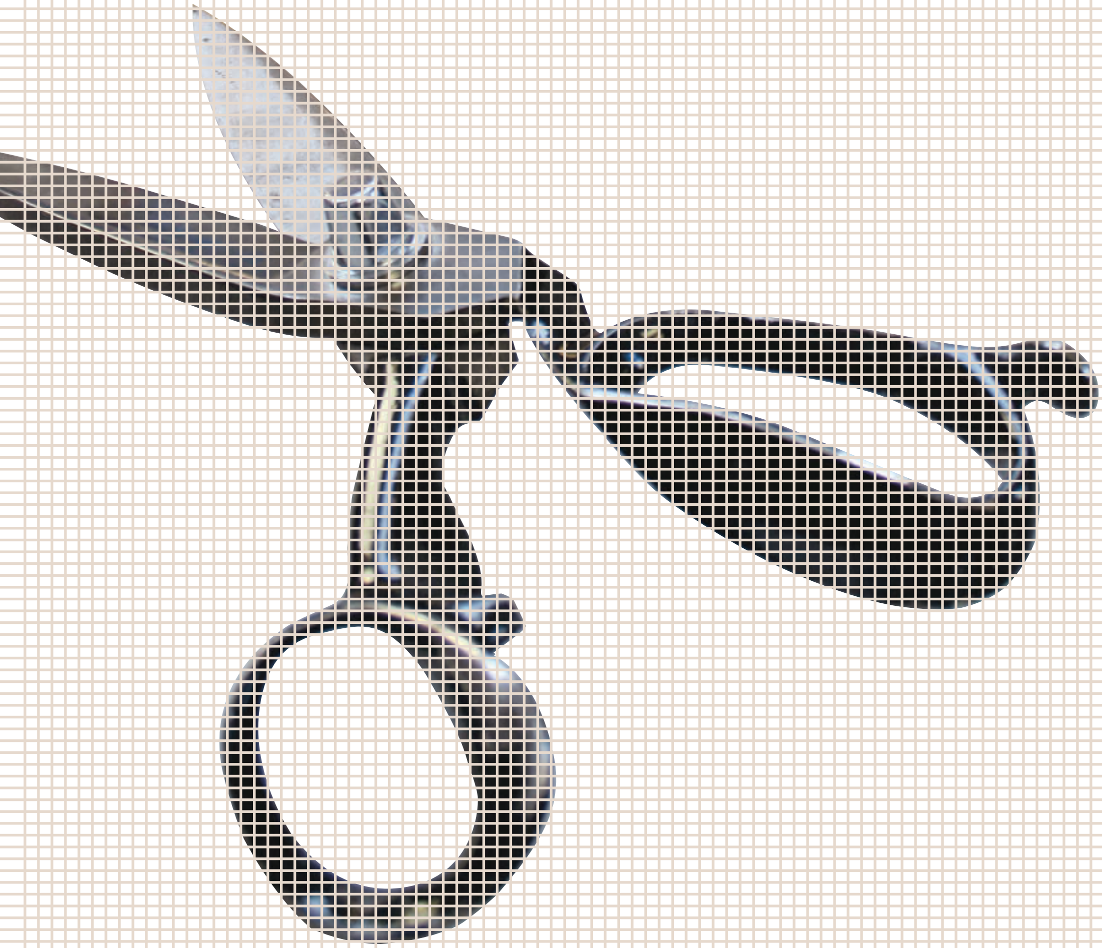
Contemporary patternmaking no longer follows but increasingly defines and contributes to the innovative ideas and trends in men's fashion. What distinguishes today's craft from previous decades is not necessarily the practice or the documented techniques; the human body has remained relatively the same and the required outcomes—clothes—have kept their defining uses. It is the conceptual approach taken by contemporary fashion that has directed the views and practices of patternmakers and designers alike.

During the 1980s and 90s, Western notions of fashion and patternmaking took a new direction, away from the previous obsession with body-conscious image and the conventions associated with traditional forms of dress. The influence of a group of pioneering Japanese designers—Issey Miyake, Kenzo Takada, Yohji Yamamoto, and Rei Kawakubo—and their sculptural design philosophy brought a new deconstructed / asymmetrical approach to notions of shape. Their garments and thus patterns were minimalist; devoid of most recognizable human features. This new aesthetic revolutionized the relationship between the perceived processes and established approaches to fashion creation of European and American designers. It is a legacy that has defined contemporary menswear and contributed to new ideas of masculinity.

Breaking free from previous modes of thinking, a new generation of designers has established ways of encapsulating the body through shape. Martin Margiela, Rick Owens, Walter Van Beirendonck, Aitor Throup, Carol Christian Poell, and Christopher Raeburn have all appropriated traditional techniques through patternmaking, using the juxtaposition of functionality and intelligent design to reinvent hybrid genres. Cultural trends no longer appropriate generic garments alone; contemporary menswear is concerned with communicating a personal vision. Patterns have become a medium to bring new ideas into physical constructs; boundaries are redrawn as seams become structural architecture for the body, what was once hidden is now exposed. Clothes can now have an abstract relationship with the anatomy of the wearer; sleeves are turned into voluminous tubes; jackets fold into bags; coats respond to environmental changes by becoming habitable. Technology plays an increasing role within design development; computer-generated patterns, 3-D shape profiling, virtual avatars, and intelligent textiles continue to shape our consciousness. Questioning our identity will remain the pursuit of contemporary men's design. Centers known for their creative diversity will continue to influence and direct the evolution of the male silhouette: Milan, Paris, Antwerp, London, New York, Tokyo, all act as magnetic generators pulling in creative practitioners who respond to the ever-changing demands of global consumerism.

The future challenges to practicing this craft will be the ability to generate innovative products through new vocabularies while conserving elements of the past. With the continuing advance of computer-generated solutions to patternmaking and the replacement of learning processes that have traditionally been done by hand, the contemporary designer / patternmaker has to be able to retain the integrity of their creative pursuit in the face of increasingly powerful market forces. Young designers have become custodians of historical techniques through the appropriation of generic styles which are invested with inherent meanings.

Engineered Garments have become one of the major brands behind the resurgence in American sportwear. The brand's designer, Daiki Suzuki,has a conceptual aesthetic toward design, research, fabric, and manufacturing processes.



CHAPTER ONE

PREPARATION FOR PATTERNMAKING

TOOLS AND EQUIPMENT

The starting point for all patternmaking, or patternmaking, is the acquisition of a good set of tools and an understanding of how to use them. Like any other trade, patternmaking has its own specialist tools, which have been developed to aid the processes of drawing and measuring. Shown here is a selection of tools that you need to buy. As a beginner, you will not need all of them to start drafting, but most are recommended as you progress through the book.

- **Tape measure**—used to measure the circumference and length of the body. The three that are particularly useful are all dual sided with centimeters and inches: a 60in (150cm) glass fiber-coated vinyl tape will not react to changes in temperature by expanding or shrinking; a 120in (300cm) glass fibre-coated vinyl tape is useful when you are using extremely long lengths of fabric, perhaps when draping fabric on the bias; a 60in (150cm) glass-fiber tailor's measure that is encased in metal at one end allows the user to hold it further away from the tip for discreet measuring around the crotch area.
- **Yardstick or meter rule**—essential for starting the pattern development as it gives an uninterrupted straight line that will be longer than half the length of most human bodies. It is usually made from aluminum or steel.
- **Right-angled ruler**—14in x 24in (35cm x 60cm) drawing angles of 90 degrees. It is usually made from plastic, aluminum, or steel.
- **Grading ruler**—18in with a ⅛in grid of vertical and horizontal lines. Used for grading and adding seam allowances to patterns. It is usually made from clear plastic.
- **45-degree set square**—a large set square will help you draw angles for shoulders and darts. Buy one that has a 180-degree range printed on it so that it can double up as a protractor. It is usually made from clear plastic.
- **French curves and pattern masters**—there are many varieties to choose from. Not to be mistaken for the smaller geometry curves, these are designed to mimic the curves of the human body—neckline, armhole, waist shaping, and side seams. Buy from a fashion retailer. They are made from clear plastic, aluminum, or steel.
- **Hip curve**—designed to replicate the shape from the lower body, it is used to draw side seams on skirts and pants and also to draw hems. It is usually made from metal, plastic, or wood.
- **Notcher—**cuts a small rectangular shape from paper or card and is used for marking seams, ease allowances, notches on armholes, zipper ends, and for pattern alignment. It is usually made from cast metal.
- **Tracing wheel—**used to copy a pattern or garment shape through layers of fabric, card, or paper. Can be bought with a wooden or plastic handle that is attached to a circular wheel with pointed needles.
- **Compass**—the best versions have an extendable arm for drawing circles or arcs.
- **Paper scissors**—patternmaking scissors have been developed with heavy, cast-metal arms for cutting card and paper. This is the tool that you will use the most so it is important to buy a quality pair that will stay sharp for longer than normal scissors.
- **Fabric scissors**—fabric scissors come in a variety of lengths with long, slim blades on cast-metal handles. Never cut paper or card with fabric scissors as this will blunt the blades, making them tear the fabric instead of slicing through it.
- **Craft knife**—used to cut openings in patterns.
- **Eyelet punch or pattern drill—**there are many kinds of pattern drill that cut a small circle from card or paper; some only cut one size of hole while others have changeable heads to cut different sizes. Used to mark dart leg ends, button placement, and pocket corners.
- **Awl—**a sharp tool used to mark holes in fabric and card.
- **Pattern hole punch**—cuts a large circular hole through card or paper to allow a pattern hook to be inserted for hanging.
- **Pattern hooks**—these are available in various sizes and are used to hold a complete set of patterns suspended from a rail.
- **Board pins**—used to hold and position patterns when drafting.
- **Dress pins—**used to secure fabric when working on the dress form or for holding seams during construction. Buy long, industrial-quality pins.
- **Drafter's pencils**—with removable leads in sizes of 0.5 / 0.7 / 0.9 mm for drawing fine to thick lines.
- **Pattern weights—**usually made from flat rectangles of steel with attached handles for holding down patterns or fabric.
- **Manila pattern card, plain, or dot and cross pattern marker paper**—used for development, tracing, and for final patterns.

- **Cutting mat**
- **Glue stick**
- **Marker pens in blue, black, green, and red—ditto, biros**
- **Highlighter pen**
- **Various types of adhesive tape**
- **Seam ripper**
- **Pencil sharpener**
- **Eraser**
- **Tailor's chalk and dispenser**

Fabric scissors

Paper/card scissors

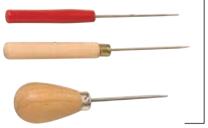
Tailor's chalk and chalk dispenser

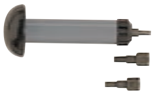
Pencil sharpener and soft eraser

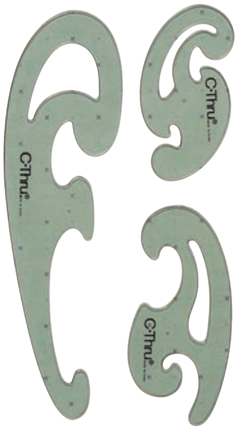
Seam ripper

Tracing wheels (x 2)

2H pencils


Awls

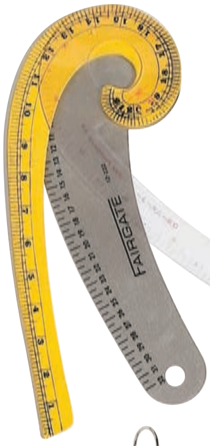

Pattern drill with parts

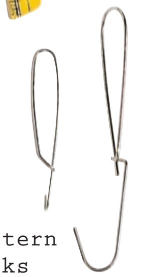

Geometry curves

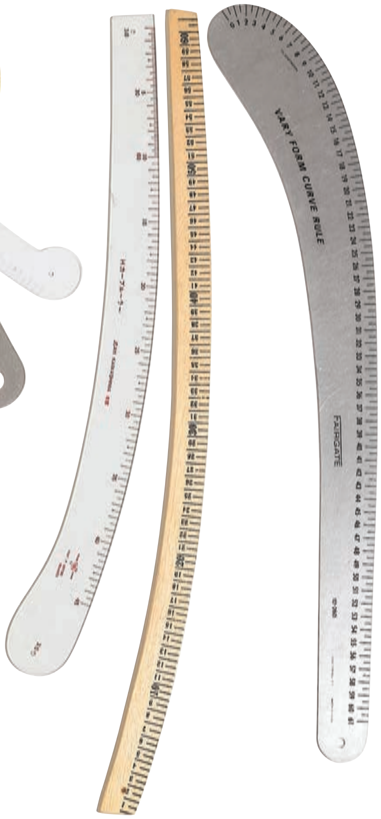
Tape measure

Metal ruler

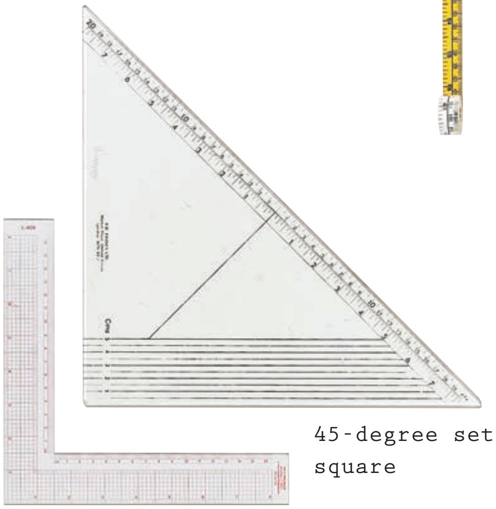
Grading ruler


French curves

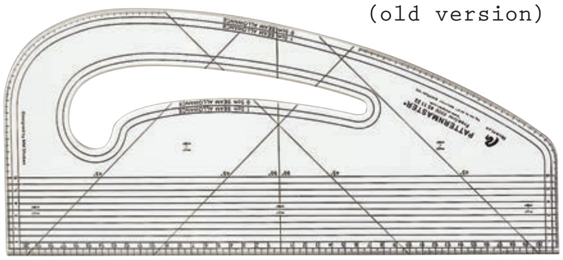

Pattern hooks

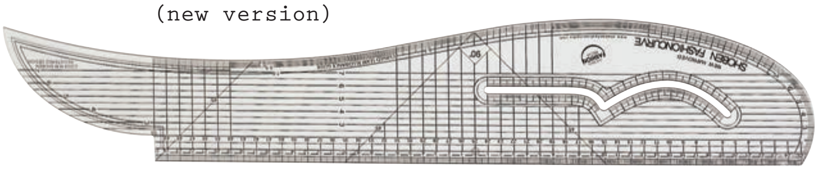

Hip curves

Meter rule


45-degree set square

90-degree set square


Pattern master (old version)


Pattern master (new version)

STUDIO PRACTICE

There are two forms of patternmaking that are practiced within industry: flat patternmaking and draping. Both are equally valid routes to the development of silhouettes for garments, and each has their own individual characteristics that will appeal; the first is static and methodical, while the second is more fluid and intuitive. Both are creative and can contribute to a working process during the creation of patterns for a design.

Flat patternmaking is a process where the practitioner begins by using a mathematical formula and a size chart to map out a flat shape on paper or card which represents a section of the human body—the chest, arm, or leg—in a basic two-dimensional form without any style lines (see page 36). These shapes, known as basic slopers, or blocks, are used, together with a sketch or technical drawing of the design, to create patterns for a stylized garment through sloper manipulation.

Draping, also known as modeling or moulage, is a technique in which the practitioner drapes, pins, shapes, gathers, and cuts the fabric directly on a model or garment stand. It is usually associated with haute couture. The process does not rely on precut shapes but on the skill of the designer or pattern cutter and his or her understanding of the body. Working directly on the figure allows you to see the proportion of seam lines, panels, pockets, buttons, and dart positions almost instantaneously.

Some sections of the garment industry will predominantly use the flat patternmaking process because it is cheaper and has a shorter lead time between design and the manufacture of the garment ready for wholesale in the ready-to-wear market.

An accomplished and experienced designer or patternmaker working for a luxury brand or haute couture house will often successfully use a combination of both draping and flat patternmaking. This method also encourages an understanding of how flat patterns relate to the three-dimensional figure and is often used in teaching environments, too.

Although patternmaking can be seen as a stand-alone specialism, it is an integral part of the production system of the modern garment industry. Most fashion brands will employ several in-house patternmakers who will work hand in hand with the design and marketing teams and the sample machinists to develop the product through from initial concept to finished product in a studio environment. This centralized operational structure is traditional practice within the industry and offers continuity throughout the production chain.

Another commercial practice employed increasingly by many independent fashion labels, who may work within tighter financial restraints, is to outsource most of their development processes. These companies rely heavily on freelance practitioners and garment makers for the production of patterns and samples for their designs.

Key to both methods of working is the use of good communication between each element of the increasingly long production line, particularly if part or parts of that line are out of house or even in different parts of the world.

Outlined below are the two main production-line processes you may come across within the industry.

Designer and patternmaker working on a collection in a studio.

BESPOKE AND SEMIBESPOKE PROCESS

Bespoke, or made-to-measure as it is also known, is the production of patterns and garments for individuals made from their personal measurements; each pattern is, therefore, unique. Semibespoke is the production of patterns from a set of industry average measurements. The garment is manufactured to a semiconstructed stage before final adjustments are made according to the client's own measurements before finishing.

Bespoke production chain	**Description**
Design sketches produced	Ideas, styles, and fabric are discussed with the client.
Measurements taken and recorded	Once the design is chosen, the fabric is purchased and measurements are taken and recorded.
Pattern drafted from measurements	Measurements are used to draft basic slopers to the client's size. The sloper is adapted to the design.
Muslin cut and sewn	Prototype muslin is cut and sewn either from muslin or the final fabric.
Muslin fitted and adjustments made	Modifications are made to the pattern based on the fitting. Muslin may be recut and a second fitting done before moving to the next stage.
Final garment cut and basted for final fitting	Final fabric cut and part assembled through basting. Fit checked on the client with possible adjustments made for proportion.
Final garment sewn	Machine sewing and hand finishing done according to characteristics of fabric.
Finishing	Buttonholes are sewn and labels attached before final pressing and dispatch.

Senior male tailor measuring cloth in a store.

READY-TO-WEAR OR PRÊT-À-PORTER

Ready-to-wear, or prêt-à-porter as it is also known, is the process of producing garments en masse in a variety of sizes. This process is designed to meet the needs of a broader range of customers in terms of fit and shape. Standard measurements from industry-regulated charts are used, or specific customer data is researched through sales or gathered from external providers to create a standard size profile that fits the demographic of the target market. This mode of production now predominates over bespoke or semibespoke as it produces a cheaper product.

Mass-production chain	**Description**
Trend research collected	Forecasting sites such as Prostyle and WGSN are consulted, previous sales are reviewed, and customer profile data is collected.
Range planned	The season's themes, looks, colors, silhouettes, fabrics, and price points are agreed upon.
Design development	Fashion illustrations and technical flats are produced and trade shows visited to research technical advancements and to collect fabrics and trims for moodboards.
Designs finalized and specification document developed	Designers and garment technologists meet to produce a specification document that contains all the production information needed for manufacture. Sample fabric and trims are ordered.
Patterns outsourced or produced in house	Patterns are developed or adapted from previous generic styles to a sample size.
Samples manufactured and fitted	Samples are sewn, usually in final fabrics according to specification sheets. Printing and speciality finishes are outsourced. Samples are fitted and adaptations made.
Wholesale orders taken	The collection is either shown to buyers and press through a runway show or via private sale meetings. Often external sales agents are appointed.
Mass-production process begins	Orders are collated into sizes and styles, delivery times are agreed, and bulk fabric and trims are ordered.
Patterns graded	Pattern slopers are enlarged or reduced from the base sample size either manually or digitally to create a size range that meets customer and regional requirements.
Order dispatched to cut, make, and trim (CMT)	Fabrics, trims, patterns, and samples are sent with the specification document to the manufacturer.
Style marker and cutting	Fabric is laid out in volume and the paper pattern marker is made ready for cutting. This sheet of paper shows all the pattern pieces laid out in an arrangement so that as little fabric as possible is wasted. If the fashion company has its own in-house pattern department then a computer-aided pattern design system may be used to generate the marker, allowing the company to control the wastage. Component parts are cut en masse ready for sewing.

Opposite: A man sews a suit jacket at a factory on the outskirts of Shanghai, China.

Mass-production chain	Description
Prepare for sewing	Some styles may need fusing added to component parts before construction. Styles are then sorted into bundles of units depending on construction processes.
Sewing	Bundles are dispatched to the factory floor and the production line of machinists. It is very unlikely that a single machinist will sew a garment from start to finish. Teams of machinists usually sew component parts of the garment—collars, pockets—in multiple units. Each component is then passed to another team for assembly.
Finishing and pressing	The finishing team will trim threads and attach buttons and details.
Quality control and dispatch	Known as QC, this is the end of the production line where garments are measured, and sewing and details are inspected to ensure that a quality standard is upheld and customer returns minimized. The product is sorted into wholesale orders, either by size, color, and / or style, ready to be shipped.

MEASURING THE MALE FIGURE

The taking of accurate measurements and the creation of good size charts are vital to ensure that the result of the pattern making process is a garment that fits comfortably. This can only be done with a thorough understanding of human anatomy and the tools used to test those measurements—the garment stand and the fit model.

Body mapping is the act of physically recording the body's surface by taking measurements. These measurements are geometrically mapped out using the basic sloper methodology to create a shaped template pattern that, when assembled, will mirror the human form. As a continual surface the human body has no boundary lines, unlike those found on a garment. Establishing these boundary lines on the body is the first step in understanding the segmented parts of a pattern. Boundary lines always stay in the same position, no matter how a body grows upward or outward. Gaining an understanding of these dividing lines will help you create designs in proportion to the human form.

MEDIAN PLANE

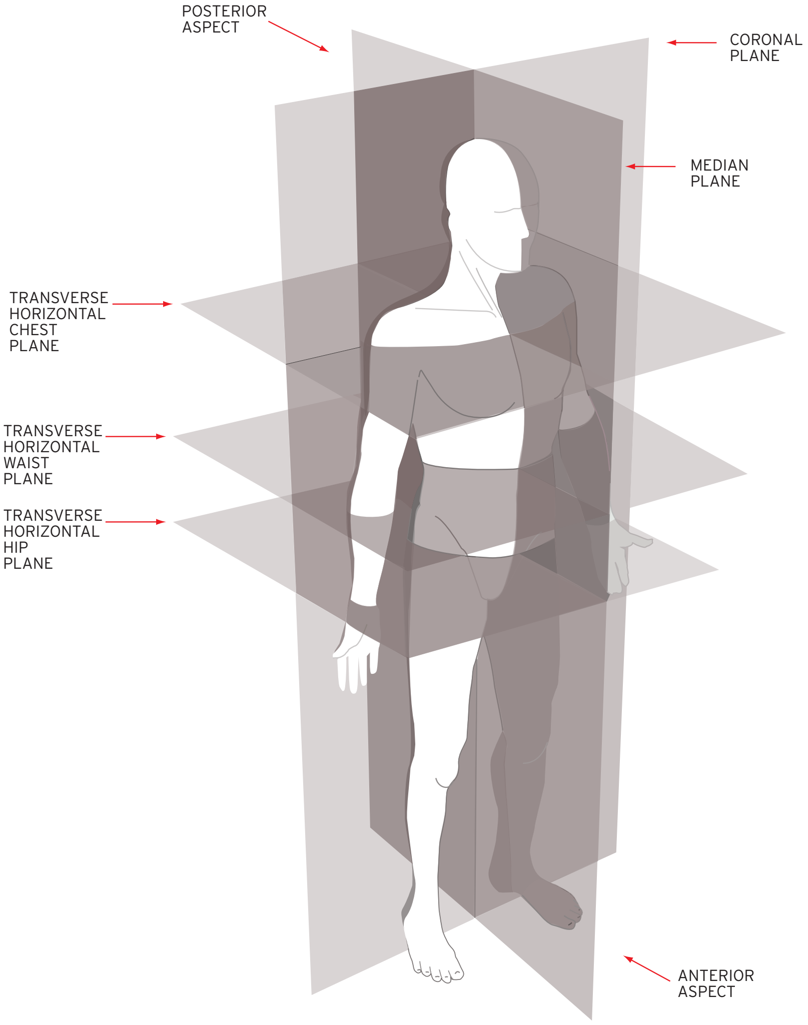
The median line passes longitudinally through the middle of the body from front to back, dividing it into right and left halves.

CORONAL PLANE

This is a vertical plane at right angles to the median plane, dividing the body into front (anterior) and back (posterior) portions.

TRANSVERSE HORIZONTAL PLANES

These lines pass horizontally through the body at right angles to the median and coronal planes, dividing the body into upper and lower portions. The chest plane runs around the largest expanse of the ribcage. The waist plane runs around the center of the body and the hip plane runs around the widest part of the lower body.


POSTERIOR ASPECT
CORONAL PLANE
MEDIAN PLANE
TRANSVERSE HORIZONTAL CHEST PLANE
TRANSVERSE HORIZONTAL WAIST PLANE
TRANSVERSE HORIZONTAL HIP PLANE
ANTERIOR ASPECT

LANDMARK POINTS

There are various landmark points on the body that are used when taking measurements. These are extensions of the body mapping above and denote the areas of separation between the parts of the pattern.

Top of the head or crown–the highest point of the body

Center back neck point–the protrusion of the seventh vertebra

High point shoulder–identified by the raised edge of the trapezius muscle

Center front neck point–the hollow where the clavicles meet the sternum

Shoulder tip–the most lateral aspect of the acromion

Underarm point–the position at which the arm joins the body under the arm

Chest nipple point–the point at which the nipple protrudes the most

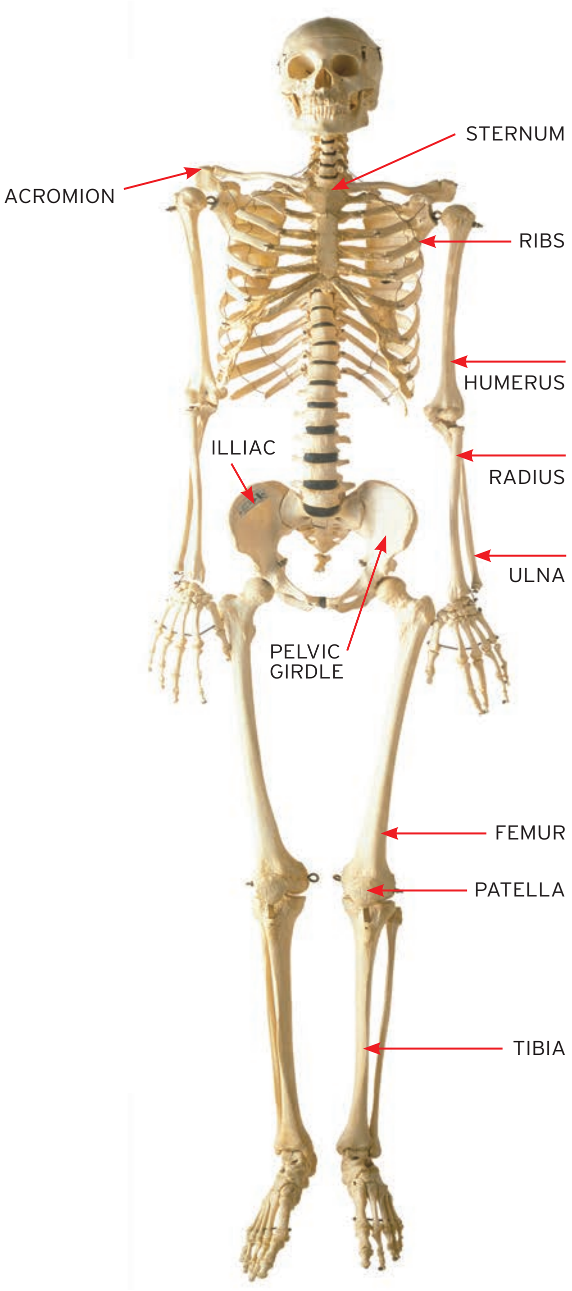
Elbow point–the point at which the joint between the humerus, radius and ulna protrudes the most

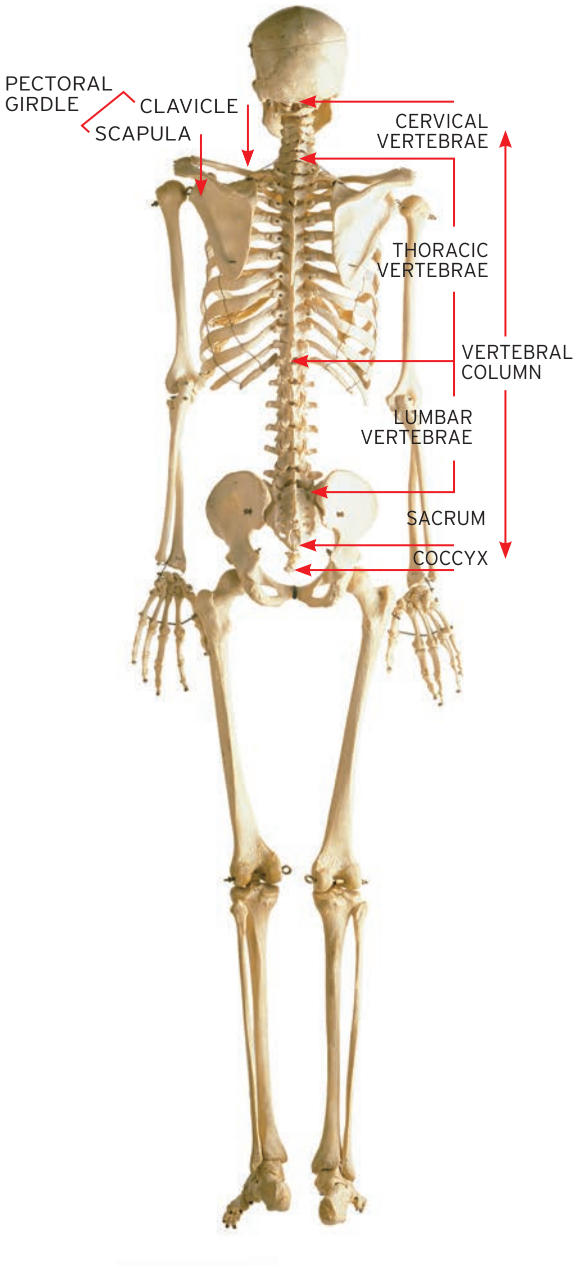
Wrist point–the point at which the hand and wrist bones join the radius and ulna

Seat protrusion point–the point at which the buttocks protrude the most

Knee point–the middle of the patella

Refer back to the male skeletal form to start to identify the positions of these points within the bone structure. This will help you to pinpoint these landmarks accurately on your model when following the measurement steps below.


STERNUM
ACROMION
RIBS
HUMERUS
ILLIAC
RADIUS
ULNA
PELVIC GIRDLE
FEMUR
PATELLA
TIBIA


PECTORAL GIRDLE
CLAVICLE
SCAPULA
CERVICAL VERTEBRAE
THORACIC VERTEBRAE
VERTEBRAL COLUMN
LUMBAR VERTEBRAE
SACRUM
COCCYX

TAKING MEASUREMENTS

The measurement system shown here includes the minimum landmark points needed to reproduce an accurate set of basic pattern slopers for the male figure.

TOOLS NEEDED TO TAKE ACCURATE BODY MEASUREMENTS

- Anthropometer or a 2-yard pole or piece of wood used to gauge height
- A new cloth or fiber tape measure (cloth tape measures stretch through use, so always use a new one)
- A yardstick or meter rule
- A set square or right-angled ruler
- Notebook, pencil, and chalk
- In order for you to take measurements accurately your fit model should not be wearing any clothes apart from a pair of fitted shorts. Make sure that the shorts are not too tight or they will distort the waistline. Ask your model to stand in an erect position, keeping his eyes looking forward in a horizontal position (so that the head does not tip up or down) with relaxed shoulders and arms falling naturally to the side and palms turned inward to the body.

1. Chest circumference / fig: (A) & (B)
Place the tape around the widest point on the chest, which will be roughly level with the nipple. Make sure the tape is sitting horizontally under the armpits.

2. (Natural) waist circumference / fig: (A) & (B)
Place the tape horizontally around the smallest circumference of the torso between the chest and the hips.

3. Low waist circumference / fig: (A) & (B)
Place the tape horizontally around the abdomen, 2in below the natural waist. This additional measurement is used when constructing a pant sloper for a more casual style.

4. Hip (seat) circumference / fig: (A) & (B)
Place the tape at the greatest buttock protrusion keeping it parallel to the floor when passing over the buttocks.

5. Back waist length
(Center back neck to the natural waist) / fig: (B)
Place the tape at the base of the neck (the last cervical vertebrae) then measure down to the natural waist point. Mark for future measurements.

6. Center front waist length
(Center front neck to the natural waist) / fig: (A)
Place the tape at the base of the neck at the front (the sternal notch), then measure down to the natural waist point. Mark for future measurements.

7. Center back neck to front waist length / fig: (A) & (B)
Place the tape at the base of the center back neck (the last cervical vertebra), then measure around the neck and over the shoulder down toward the center front natural waist point. Mark for future measurements.

8. Neck base circumference / fig: (A) & (B)
Place the measure at the base of the back of the neck at the point that you identified earlier. Continue to the high point shoulder, which can be identified by the raised edge of the trapezius muscle, mark, and continue around to the front neck point, which is denoted by a hollow at the top of the chest at the center front (sternum bone).

9. Head circumference / fig: (A) & (B)
Place the tape around the widest part of the head, running above the ears and over the forehead.

10. Head length / fig: (A)
Place the tape under the chin point with the head in a vertical position and measure up so that the measurement is taken level with the crown point on the top of the head.

11. Across back width / fig: (B)
Measure between the points at which the arms are connected to the body. On a pattern this is between the back notches.

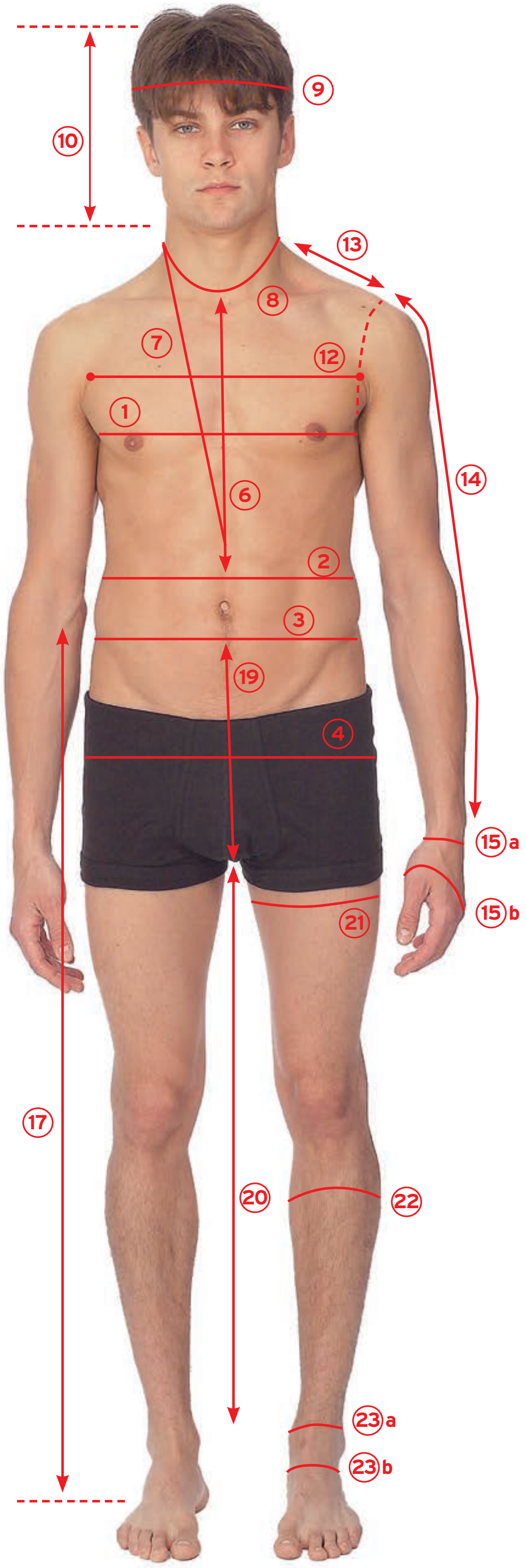
12. Across front width / fig: (A)
Measure between the points at which the arms are connected to the body, where a crease is formed by the armpit. On a pattern this is between the front notches.

13. Shoulder length / fig: (A)
Place the tape at the high point shoulder that you identified previously and measure along the top of the muscle to the shoulder tip.

14. One-piece sleeve length / fig: (A)
Measure from the shoulder tip down the arm and over the elbow to the wrist with the arm hanging naturally but slightly bent. You can also take the underarm measurement in this position by placing the tape $3/4$in underneath the model's armpit and measuring down to the wrist.

15. Wrist and hand circumference/ fig: (A) & (B)
Measure around the wrist joint where the bone protrudes. Together with the width of the hand this measurement will help you establish the minimum cuff width. Measure around the widest point of the hand with fingers and thumb held as if the model is putting his arm in a sleeve.

FIGURE A


⑨
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㉓b

16. Center back neck height from floor / fig: (B)
This measurement will allow you to gauge the proportions of all the other body length measurements and evaluate the silhouette of the garment.

To measure the model's body length accurately use an anthropometer. Ask the model to stand in an erect position with his feet together and arms hanging naturally in relaxed position. Direct the model's head into an upright position where his eyes and ears are on the same horizontal plane.

Lower the arm of the anthropometer down onto the center back neck point. Take the height reading from the dial on the anthropometer. If you don't have an anthropometer, use a 2-yard pole or a piece of wood against a flat surface.
If using a tape measure, make sure it is a new one.

17. Low waist to floor length / fig: (A)
Place the tape on the side of the body at the low waistline and measure down vertically to the floor.

18. Natural waist to hip length / fig: (B)
Place the tape at the natural waistline, on the side or the side back, then measure down to the hip level.

19. Crotch length (Center front and center back) / fig: (A) & (B)
Place the tape on the low waistline at the center front. Pass between the lowest part of the crotch and up between the buttocks to the low waistline on the center back. This measurement can also be separated into front crotch length and back crotch length.

20. Inside leg length / fig: (A)
Place the tape end in a central position under the crotch, then measure down the inside of the leg to the ankle.

21. Thigh circumference / fig: (A) & (B)
Place the tape around the widest point on the leg, 2in below the crotch. Keep the tape parallel to the floor.

22. Calf circumference / fig: (A) & (B)
Place the tape around the widest point of the lower leg below the knee line. Keep the tape parallel to the floor.

23. Ankle and heel-foot circumference / fig: (A), (B) & (C)
Ankle—measure around the narrowest point (the medial malleolus) above the ankle. Keep the tape parallel to the floor.
Heel foot—measure around the heel passing the tape measure over the widest part (the dorsal juncture) of the foot at a 45-degree angle to the floor.

24. Seat depth / fig: (C)
Ask your model to sit upright with his knees at a right angle to his torso. Place the tape on the low waistline at the side and measure down vertically to the seated buttocks.

FIGURE B

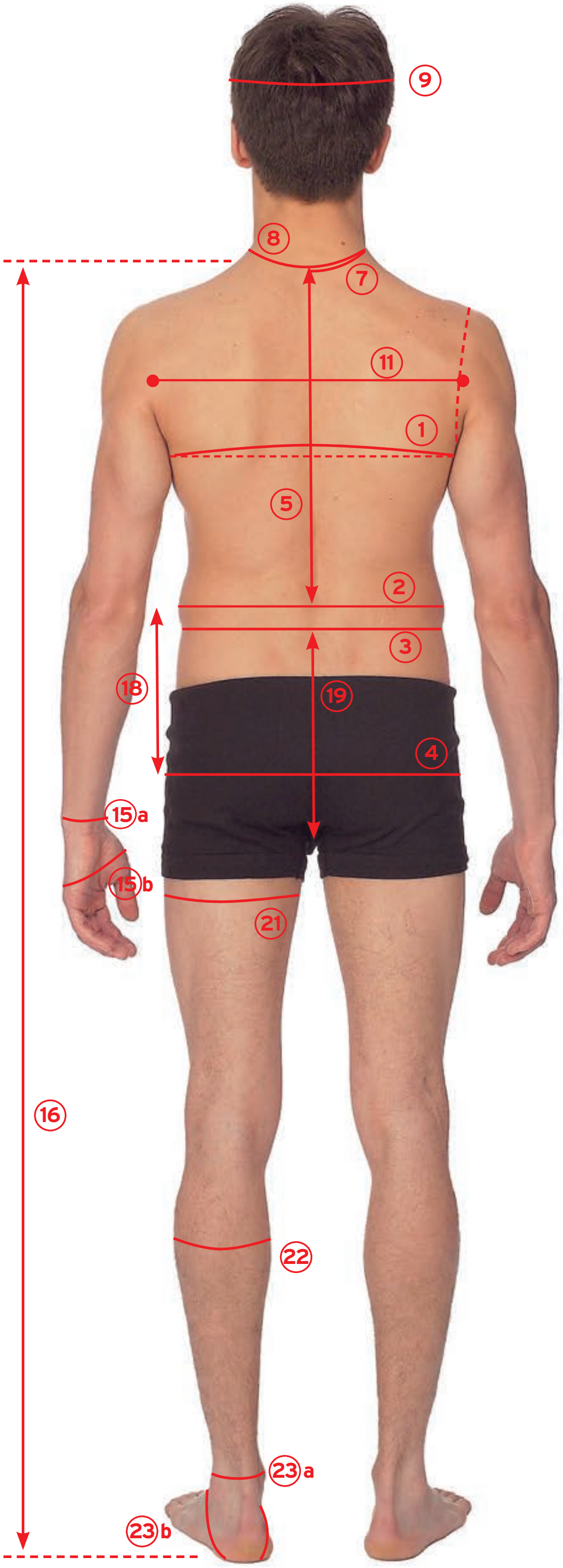
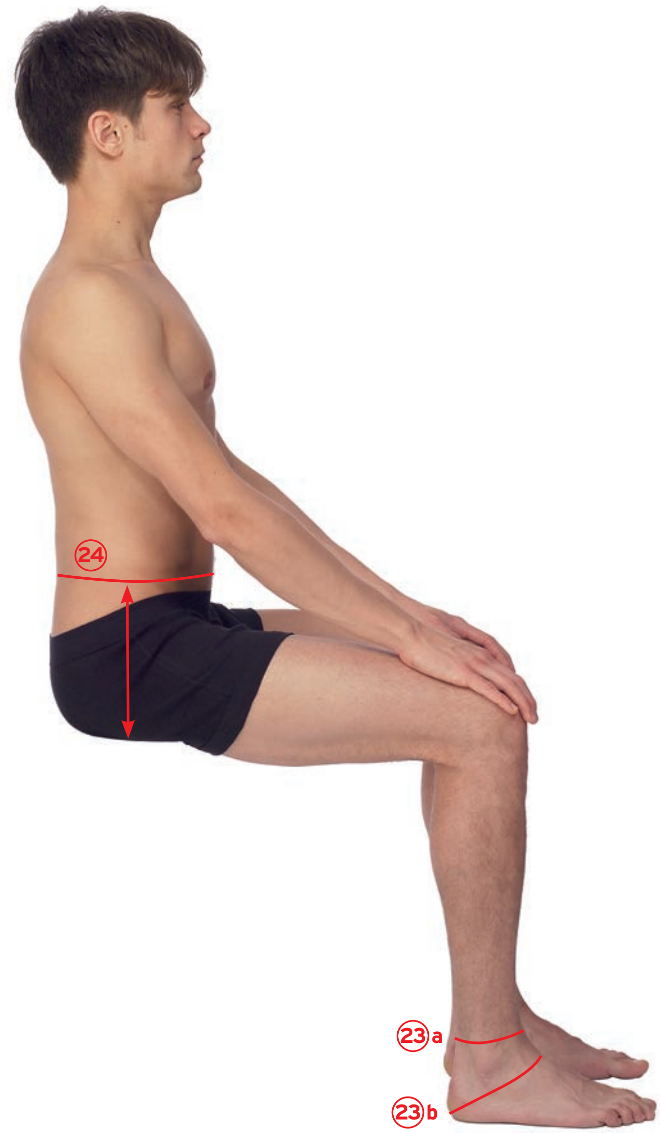


FIGURE C

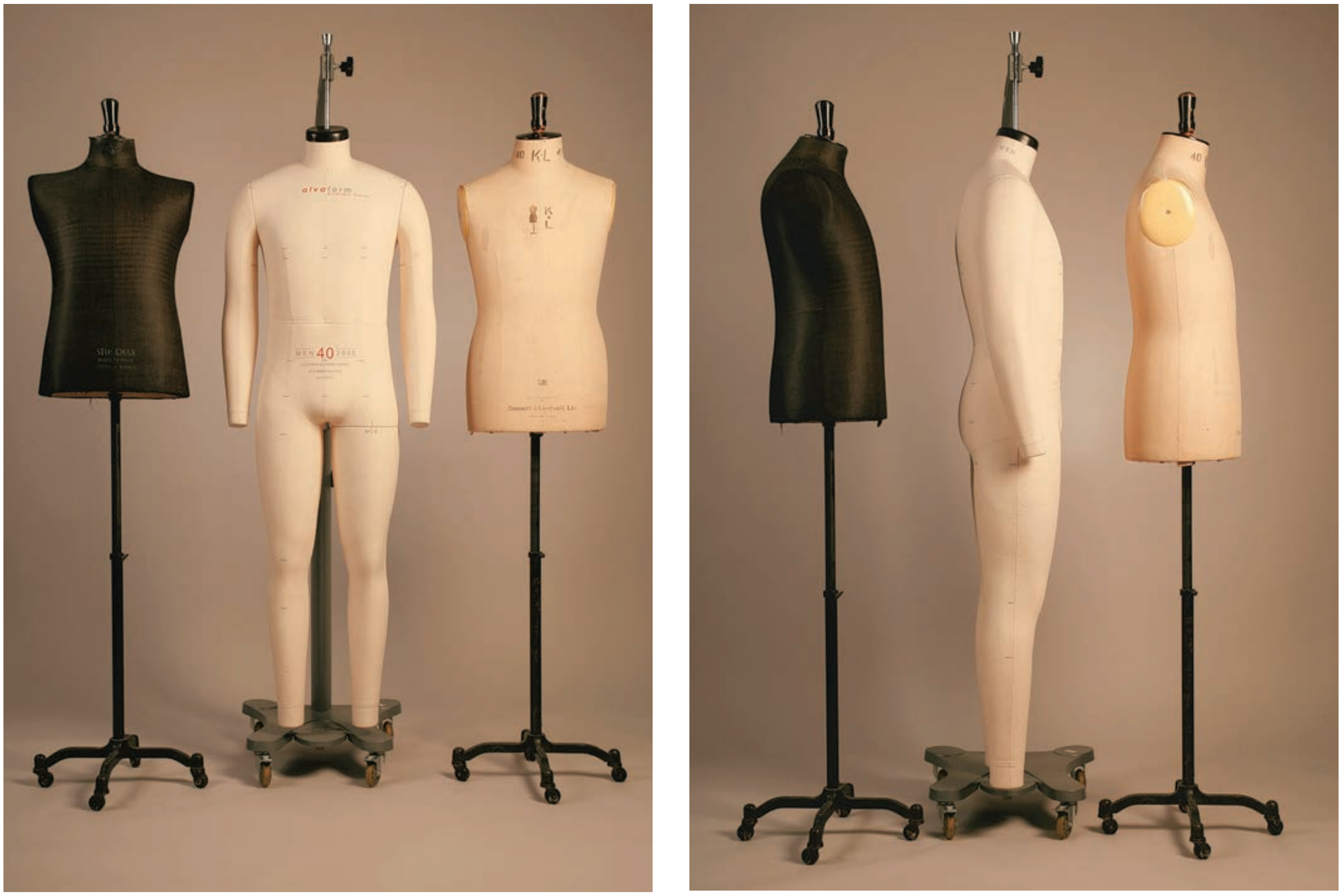


The measurement model pictured in figures (A), (B), and (C) is a professional model working within the fashion industry. He was selected because he has an industry-endorsed average body shape for a size 38in (96cm) chest. The summary of the model's measurements provided below was recorded by a TC2 3-D Body Measurement Scanner.

Use the information below to make comparisons with your fit model's measurements.

1 Chest circumference	38in
2 (Natural) waist circumference	33⅛in
3 Low waist circumference (2in below natural)	33½in
4 Hip (seat) circumference	37⅜in
5 Center back neck to natural waist length	17¾in
6 Center front neck to natural waist length	15¾in
7 Center back neck to front waist length	22¼in
8 Neck base circumference	15½in
9 Head circumference	22⅞in
10 Head length	9½in
11 Across back width	15⅜in
12 Across front width	14⅛in
13 Shoulder length	6⅛in
14 One-piece sleeve length	24¾in
15a Wrist circumference	6¾in
b Hand circumference	9⅞in
16 Back neck height from floor	60⅜in
17 Low waist to floor length	40¾in
18 Natural waist to hip length	8¼in
19a Front crotch length (natural waist)	14⅜in
b Back crotch length (natural waist)	14¾in
20 Inside leg length (crotch to ankle)	28⅞in
21 Thigh circumference	21⅞in
22 Calf circumference	14⅛in
23a Ankle circumference	9¾in
b Heel-foot circumference	12¾in
24 Seat depth	12⅜in

DRESS FORMS



Fit mannequins or dress forms are used in the clothing industry for developing patterns and for fitting muslins and garments. Choosing the right one is important when establishing your size range. Modeled to represent the dimensions of the human body, they are made from fiberglass with a covering of foam and linen. They can be bought in many sizes and in different body configurations (three-quarter, full-, or half-body, with or without arms).

Standard forms are three-quarter length, finishing below the hip. They are generally sold without arms and are mounted on a central metal adjustable pole, with or without wheels. These are the perfect starting point when building up a studio as you can use one to fit and assess patterns, muslins, and garment silhouettes during line development. Full-body versions are available and generally hang on a pole from the crown point. They are available with removable arms and legs and collapsible shoulders.

Recent advances in 3-D body scanning technology have seen the development of a new, technically superior form with an accurate body shape that is truly representative of age and customer profile. Produced from sizing data collected through surveys, these forms can be manufactured to a high level of accuracy with collapsible shoulders, collapsible hips, removable arms, and a soft abdomen. They also have measurement lines incorporated and come with an adjustable stand.

If your form comes without any measurement lines, use seam tape to mark them before use. This will help you in your understanding of pattern construction as the front and back slopers represent the segmented parts of the human body. Attach the seam tape with pins or sew the landmark lines to the linen—center front and back, neckline circumference, chest circumference, waist circumference, hip circumference, side seams, shoulder seams, and armholes. To find these positions use your tape measure to divide the circumferences and lengths of the form.

Above: The evolution in the shape of the dress form from three different manufacturers, all produced to a size 40in. Left to right: Siegel & Stockman tailor's dummy, France, c.1960; Alvanon full-body form created using bodyscan data, US, 2005; Kennett & Lindsell's British body shape line, UK, 1980.

FIT MODELS

When considering and selecting a fit model around which to develop a collection, it is important to identify your customer's silhouette or normal body shape first. This can be achieved by undertaking comparative research among your competitors. Take photos and collect tearsheets from magazines or from street style blogs. This information will help you identify what your consumer may look like and thus help you to select the best fit model. Remember that fashion models on the catwalk are not real customers; they are marketing tools used to project the image of the brand.

It is wise to have several fit models reflecting different male silhouettes. Once you have recruited your fit models it is important to record certain fundamental elements, such as posture, weight, eating habits, and exercise routines. This will help you to make accurate judgments in future fitting sessions; if your model's shape changes you can avoid unnecessary corrections and adjustments to samples and patterns.

POSTURE AND DROP

Posture and drop are also important factors when selecting a fit model. Unlike the dress form, the human body may not be symmetrical.

Posture

Posture refers to the physical manner in which the body frame is carried. Incorrect posture can affect the balance of patterns, resulting in numerous figure adjustments.

Men's ready-to-wear has traditionally offered a wider range of fitting groups with short, medium, and tall heights accommodated. Increasingly retailers have categorized these into five general silhouettes:

- **Slim**—straight back with low muscle definition on chest, abdomen, and lower body;
- **Regular / normal**—a flat chest and stomach with a straight back;
- **Large / athletic**—a pronounced chest with a straight back and enlarged muscle definition;
- **Stocky**—rounded shoulders with a curved back and a slightly protruding stomach and chest;
- **Obese**—a corpulent abdominal area that results in stooped shoulders and a curved back.

As your product may appeal to one or more of these figure types it is important that you can identify these variations, giving you the ability to make corrections to your patterns and thus achieve a better fitting garment for your customer.

The following are some of the most common posture variations that will also affect the balance of a garment.

Normal The head and neck are held centrally over the shoulders, which sit back and down. The chest is slightly lifted above a taut stomach. Arms hang naturally with elbows bent forward over a straight back.
Erect The chest is lifted, which creates an arched upper back, thus shortening the upper back length and increasing the front chest length from the prominence of the chest to base of the neck.
Rounded / slumped back The head is slumped forward with curved shoulders and a rounded upper back and hollow chest, which leads to a narrow chest with increased back length and width.
Sloped or square shoulders Sloping shoulders will require an increase in the pitch of the shoulder slope from the armhole, while square shoulders will need a decrease in the pitch.

Drop

Drop is the term used to describe the ratio between the circumference of the chest and that of the waist. Identifying this will help you to visualize the silhouette of the figure: a larger waist than chest will give you a triangular silhouette; a waist that is the same as the chest will lead to a rectangular silhouette.

Designer Yohji Yamamoto conducting a fit session as he prepares for his Spring 2011 menswear show.

SIZE CHARTS

All the size charts provided are to create proportionally balanced patterns, which would be adjusted to the individual requirements during the sampling process.

SAMPLE CHINESE BODY SIZE CHART

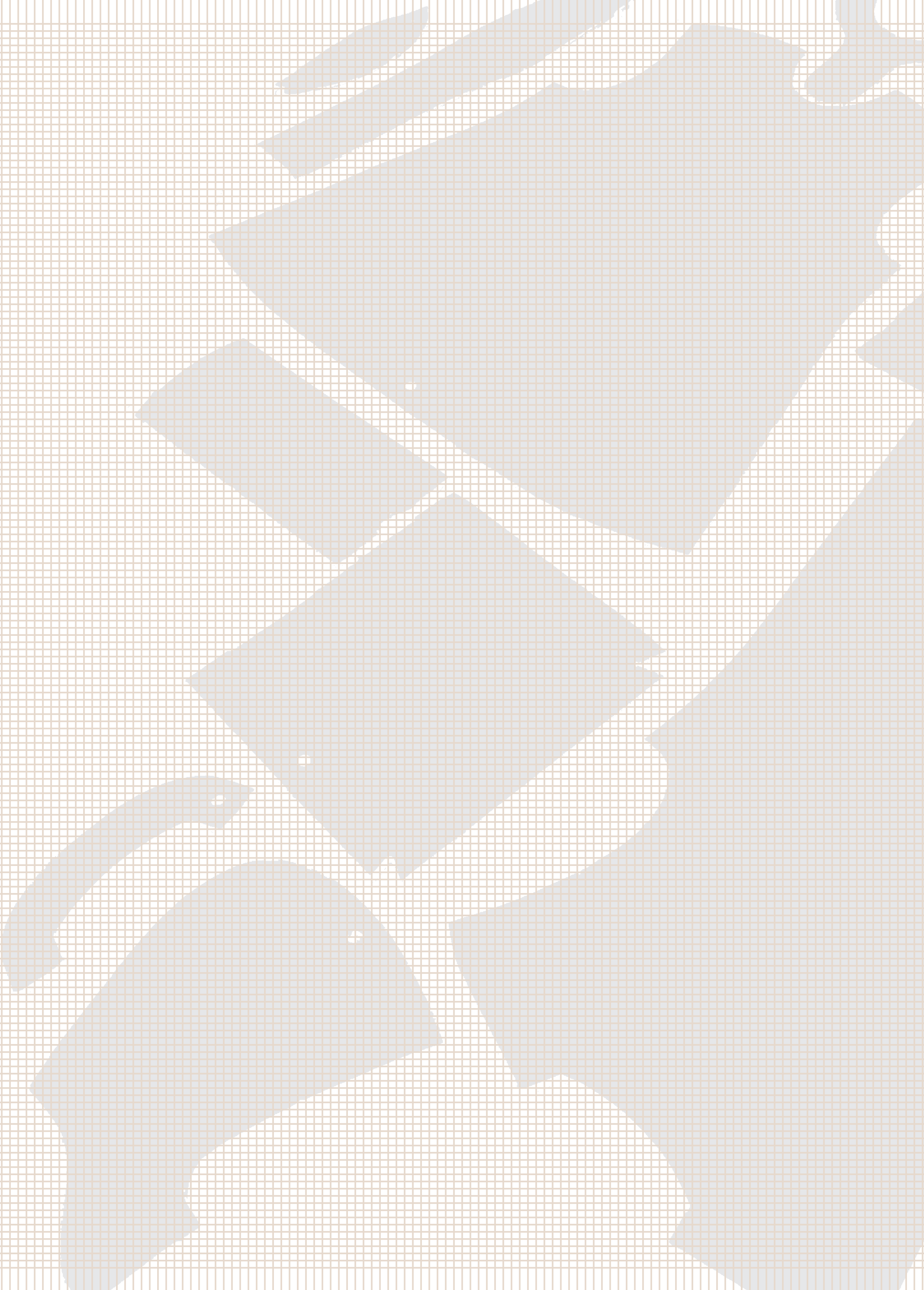
Code	Body Measurements											Grade
1	Chest circumference	72	76	80	84	88	92	96	100	104	108	4
2	(Natural) waist circumference	62	66	70	74	78	82	86	90	94	98	4
3	Low waist circumference	65	69	73	77	81	85	89	93	97	101	4
4	Hip (seat) circumference	71	75	79	83	87	91	95	99	103	107	4
5	Back waist length	42.2	42.5	42.8	43.1	43.4	43.7	44	44.3	44.6	44.9	0.3
6	Center front waist length	39.2	39.5	39.8	40.1	40.4	40.7	41	41.3	41.6	41.9	0.3
7	Front waist from center back neck	56	57	58	59	60	61	62	63	64	65	1
8	Neck base circumference	37	38	39	40	41	42	43	44	45	46	1
9	Head circumference	56.2	56.5	56.8	57.1	57.4	57.7	58	58.3	58.6	58.9	0.3
10	Head length	24	24.2	24.4	24.6	24.8	25	25.2	25.4	25.6	25.8	0.2
11	Across back width	36	37	38	39	40	41	42	43	44	45	1
12	Across front width	32	33	34	35	36	37	38	39	40	41	1
13	Shoulder length	13.2	13.5	13.8	14.1	14.4	14.7	15	15.3	15.6	15.9	0.3
14	One-piece sleeve length	58	58	58	58	58	58	58	58	58	58	0
15 a	Wrist circumference	14.8	15	15.2	15.4	15.6	15.8	16	16.2	16.4	16.6	0.2
15 b	Hand circumference	20.8	21	21.2	21.4	21.6	21.8	22	22.2	22.4	22.6	0.2
16	Body length	125.8	128.2	130.6	133	135.4	137.8	140.2	142.6	145	147.4	2.4
17	Low waist to floor length	97.8	98	98.2	98.4	98.6	98.8	99	99.2	99.4	99.6	0.2
18	Low waist to hip length	18	18	18	18	18	18	18	18	18	18	0
19 a	Front crotch length	35.3	35.5	35.7	35.9	36.1	36.3	36.5	36.7	36.9	37.1	0.2
19 b	Back crotch length	33.9	34.5	35.1	35.7	36.3	36.9	37.5	38.1	38.7	39.3	0.6
20	Inside leg length	69.4	70	70.6	71.2	71.8	72.4	73	73.6	74.2	74.8	0.6
21	Thigh circumference	37.2	39	40.8	42.6	44.4	46.2	48	49.8	51.6	53.4	1.8
22	Calf circumference	31.6	32.5	33.4	34.3	35.2	36.1	37	37.9	38.8	39.7	0.9
23 a	Ankle circumference	22.2	22.5	22.8	23.1	23.4	23.7	24	24.3	24.6	24.9	0.3
23 b	Heel-foot circumference	30.2	30.5	30.8	31.1	31.4	31.7	32	32.3	32.6	32.9	0.3
24	Seat depth	31	31	31	31	31	31	31	31	31	31	0

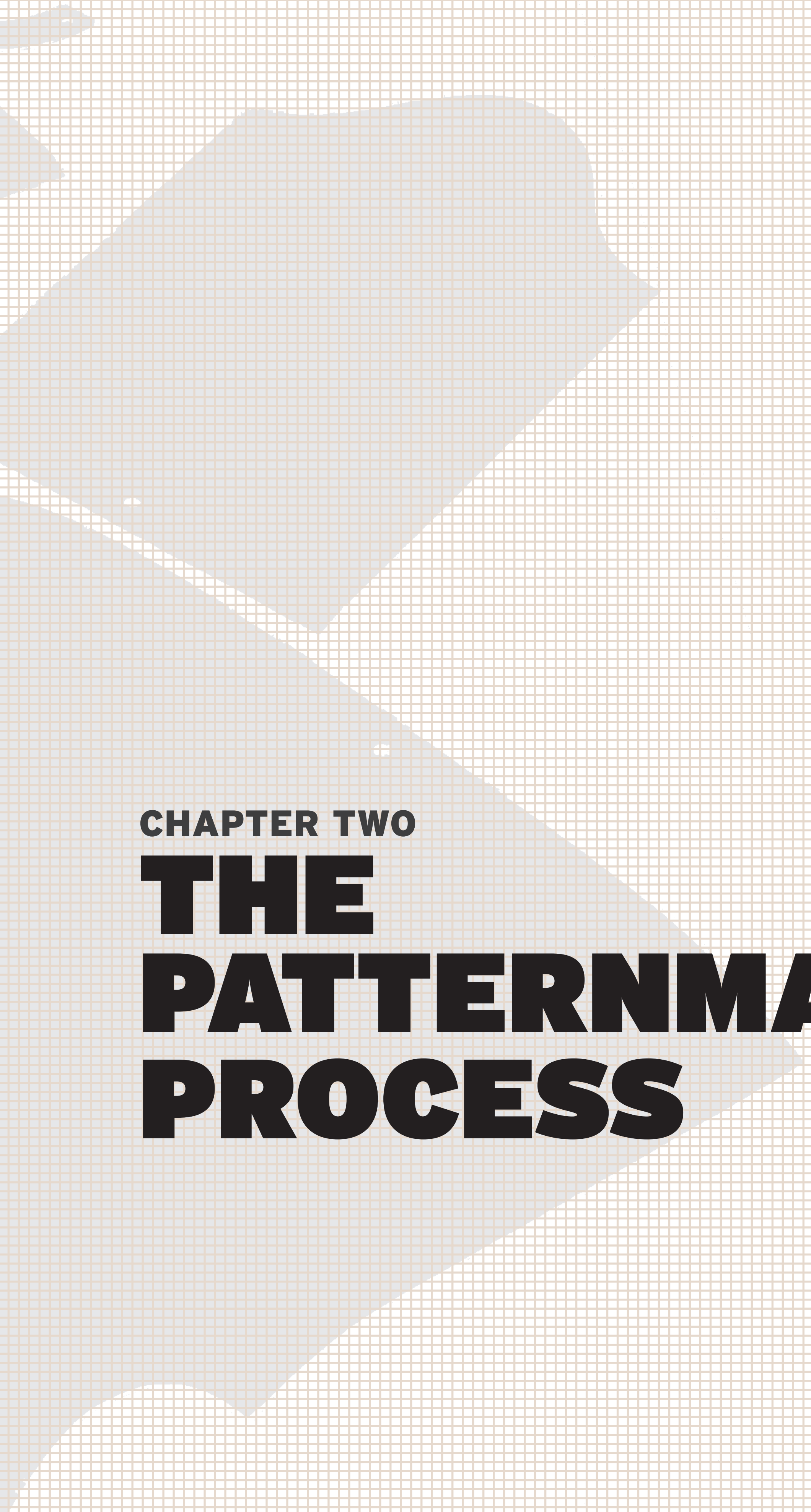
SAMPLE US BODY SIZE CHART

Code	Body Measurements	34″	36″	38″	40″	42″	44″	Grade
1	Chest circumference	84.9	90.7	96.5	102.3	108.1	113.9	5.8
2	(Natural) waist circumference	69.7	75.5	81.3	87.1	92.9	98.7	5.8
3	Low waist circumference	72.2	78.0	83.8	89.6	95.4	101.2	5.8
4	Hip (seat) circumference	84.9	90.7	96.5	102.3	108.1	113.9	5.8
5	Center back neck to natural waist length	48.9	49.2	49.5	49.8	50.1	50.5	0.32
6	Center front neck to natural waist length	44.8	45.8	46.7	47.7	48.6	49.6	0.95
7	Center back neck to front waist length	53.5	54.5	55.5	56.5	57.5	58.5	1
8	Neck base circumference	35.6	36.8	38.1	39.4	40.6	41.9	1.27
9	Head circumference	56.4	56.7	57.0	57.3	57.6	57.9	0.3
10	Head length	25.1	25.3	25.5	25.7	25.9	26.1	0.2
11	Across back width	38	39	40	41	42	43	1
12	Across front width	36	37	38	39	40	41	1
13	Shoulder length	15.3	15.6	15.9	16.2	16.5	16.9	0.32
14	One-piece sleeve length	62.6	62.9	63.2	63.5	63.8	64.2	0.32
15 a	Wrist circumference	16.5	17.2	17.8	18.4	19.1	19.7	0.64
15 b	Hand circumference	21.6	21.8	22.0	22.2	22.4	22.6	0.2
16	Back neck height from floor	160.5	160.7	160.9	161.1	161.3	161.5	0.2
17	Low waist to floor length	105.8	106.1	106.4	106.7	107	107.4	0.32
18	Natural waist to hip length	20	20	20	20	20	20	0
19 a	Front crotch length	32.5	33.4	34.3	35.2	36.1	37	0.9
19 b	Back crotch length	34.6	35.5	36.4	37.3	38.2	39.1	0.9
20	Inside leg length	80.5	80.9	81.3	81.7	82.1	82.5	0.4
21	Thigh circumference	53.4	55.9	58.4	60.9	63.4	66.0	2.52
22	Calf circumference	34.6	35.6	36.5	37.5	38.4	39.4	0.95
23 a	Ankle circumference	21.3	22.1	22.9	23.7	24.5	25.3	0.79
23 b	Heel-foot circumference	32.4	32.7	33.0	33.3	33.6	33.9	0.3
24	Seat depth	28.0	28.0	28.0	28.0	28.0	28.0	0

SAMPLE EUROPEAN BODY SIZE CHART

Code	Body Measurements	EU34	EU36	EU38	EU40	EU42	EU44	Grade
1	Chest circumference	88	92	96	100	104	108	4
2	(Natural) waist circumference	72	76	80	84	88	92	4
3	Low waist circumference	76	80	84	88	92	96	4
4	Hip (seat) circumference	90	94	98	102	106	110	4
5	Center back neck to natural waist length	44.1	44.4	44.7	45	45.3	45.6	0.3
6	Center front neck to natural waist length	39.9	40.2	40.5	40.8	41.1	41.4	0.3
7	Center back neck to front waist length	55.1	56.1	57.1	58.1	59.1	60.1	1
8	Neck base circumference	38	39	40	41	42	43	1
9	Head circumference	56.7	57	57.3	57.6	57.9	58.2	0.3
10	Head length	24.8	25	25.2	25.4	25.6	25.8	0.2
11	Across back width	37	38	39	40	41	42	1
12	Across front width	32	33	34	35	36	37	1
13	Shoulder length	13.7	14	14.3	14.6	14.9	15.2	0.3
14	One-piece sleeve length	64	64	64	64	64	64	0
15 a	Wrist circumference	17.2	17.4	17.6	17.8	18	18.2	0.2
15 b	Hand circumference	21.6	21.8	22	22.2	22.4	22.6	0.2
16	Back neck height from floor	154.4	154.6	154.8	155	155.2	155.4	0.2
17	Low waist to floor length	111.3	111.5	111.7	111.9	112.1	112.3	0.2
18	Natural waist to hip length	20	20	20	20	20	20	0
19 a	Front crotch length	25.9	26.7	27.5	28.3	29.1	29.9	0.8
19 b	Back crotch length	29.5	30.3	31.1	31.9	32.7	33.5	0.8
20	Inside leg length	83.4	83.8	84.2	84.6	85	85.4	0.4
21	Thigh circumference	52.7	54.5	56.3	58.1	59.9	61.7	1.8
22	Calf circumference	35.1	36	36.9	37.8	38.7	39.6	0.9
23 a	Ankle circumference	24.4	24.7	25	25.3	25.6	25.9	0.3
23 b	Heel-foot circumference	32.4	32.7	33	33.3	33.6	33.9	0.3
24	Seat depth	30	30	30	30	30	30	0





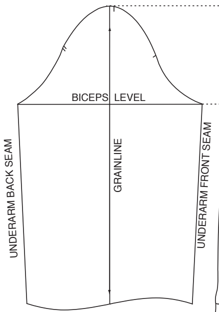
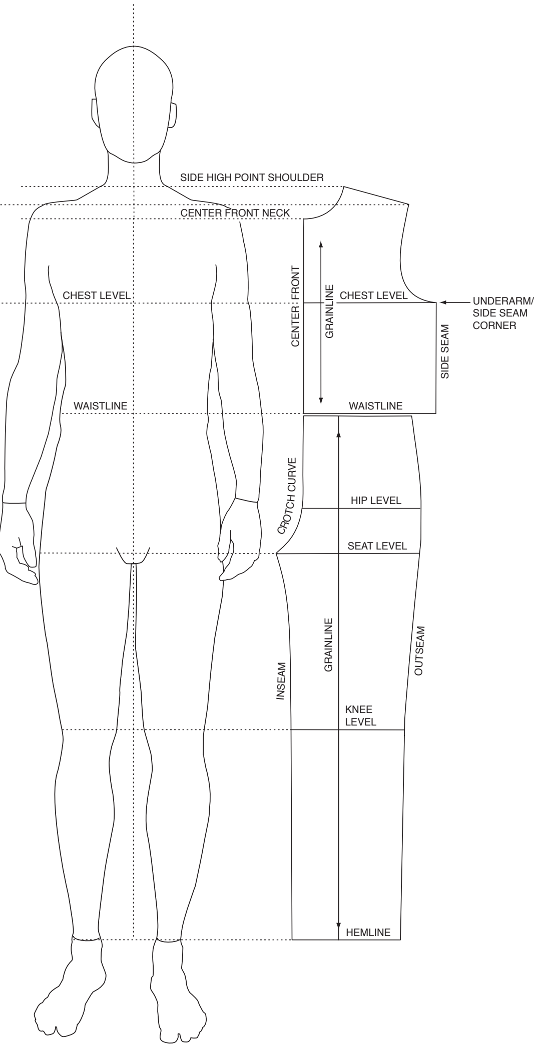
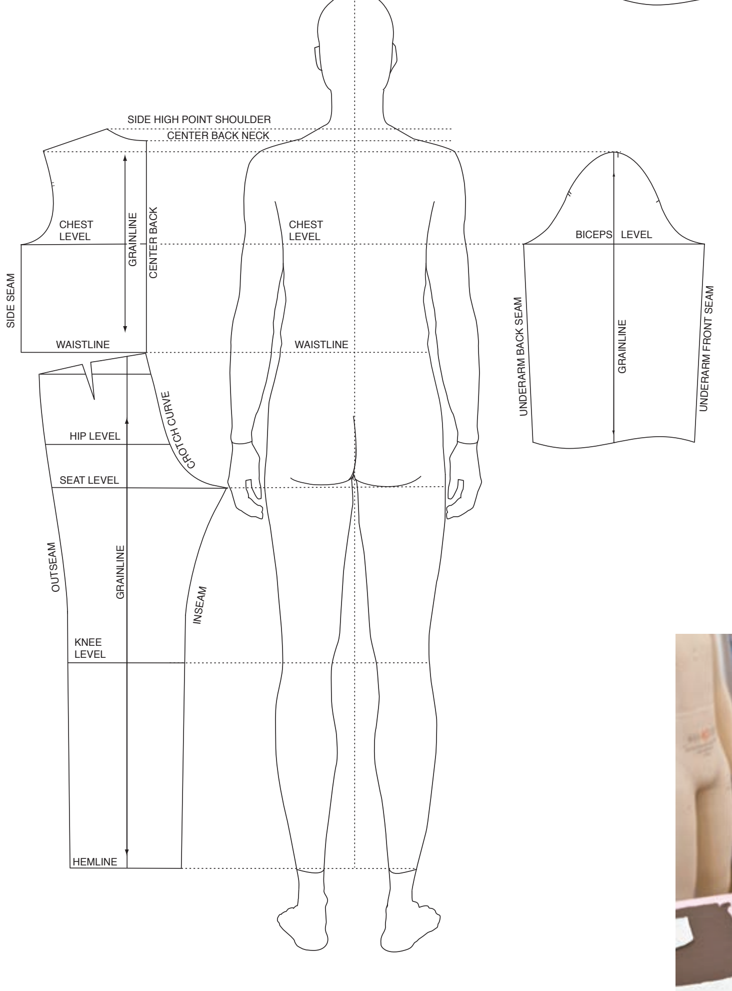
CHAPTER TWO

THE PATTERNMAKING PROCESS

THE DEVELOPMENT OF THE DESIGN

There are five stages in the development of a design in patternmaking: the basic sloper pattern, the master plan or pattern, the design development pattern, the designer pattern from which the muslins are cut, and, finally, the production pattern.

How pattern slopers relate to the body
The boundary lines of the basic pattern slopers—bodice, sleeve, pant—and their alignment to the male figure. Use this template to assist you in your design development when determining proportional placement of style features on your silhouette.




SIDE HIGH POINT SHOULDER
CENTER FRONT NECK
BICEPS LEVEL
CHEST LEVEL
CENTER FRONT
GRAINLINE
CHEST LEVEL
UNDERARM/
SIDE SEAM
CORNER
UNDERARM BACK SEAM
GRAINLINE
UNDERARM FRONT SEAM
SIDE SEAM
WAISTLINE
WAISTLINE
CROTCH CURVE
HIP LEVEL
SEAT LEVEL
INSEAM
GRAINLINE
OUTSEAM
KNEE
LEVEL
HEMLINE
SIDE HIGH POINT SHOULDER
CENTER BACK NECK
CHEST
LEVEL
GRAINLINE
CENTER BACK
CHEST
LEVEL
BICEPS LEVEL
SIDE SEAM
WAISTLINE
WAISTLINE
UNDERARM BACK SEAM
GRAINLINE
UNDERARM FRONT SEAM
CROTCH CURVE
HIP LEVEL
SEAT LEVEL
OUTSEAM
GRAINLINE
INSEAM
KNEE
LEVEL
HEMLINE

Right: A student cutting out patterns for his final-year collection.

THE BASIC SLOPER

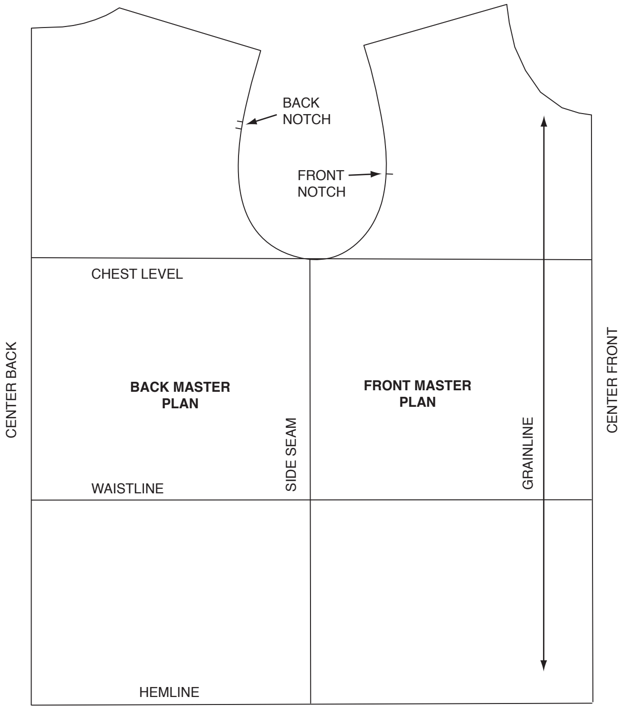
When developing any pattern, the first stage is to create a basic sloper. Drafted from a size chart or from a company's fit model's measurements, these patterns offer only the basic pattern shape, broadly following the contours of the body. For menswear the following basic slopers are usually needed:

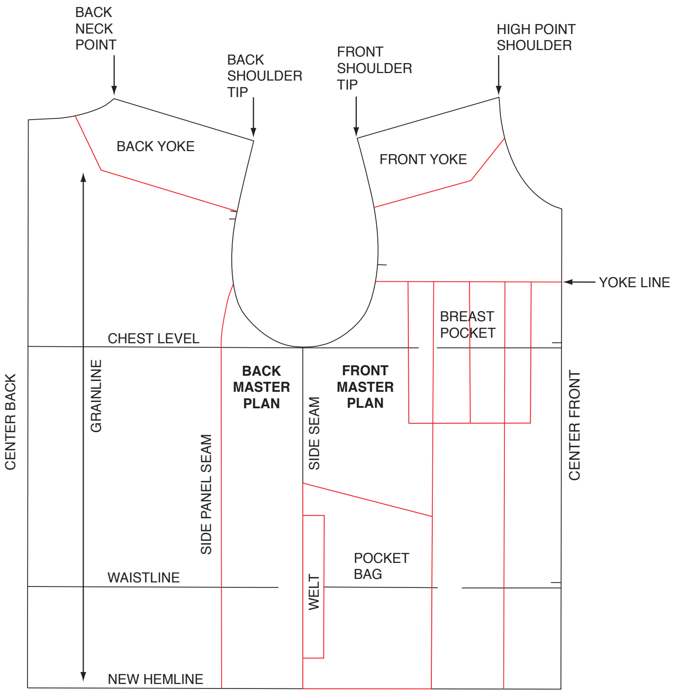
- Basic upper body sloper—a front and a back body shape
- Basic sleeve sloper, which can be one or two piece
- Basic pant sloper, which consists of a front and back leg shape

All patterns in the book are based on these three basic slopers (see pages 40–47). Once the basic sloper has been created, it is made up as a muslin and fitted. After any necessary adjustments are made, the sloper is then cut from heavy card or thin plastic with no seam allowance.

The exception to the rule is the tailored two-piece sleeve, which is drafted direct with no sloper used (see Trench Coat pages 244–45).

THE MASTER PLAN OR PATTERN


BACK NOTCH
FRONT NOTCH
CHEST LEVEL
CENTER BACK
BACK MASTER PLAN
FRONT MASTER PLAN
CENTER FRONT
SIDE SEAM
GRAINLINE
WAISTLINE
HEMLINE


BACK NECK POINT
BACK SHOULDER TIP
FRONT SHOULDER TIP
HIGH POINT SHOULDER
BACK YOKE
FRONT YOKE
YOKE LINE
BREAST POCKET
CHEST LEVEL
CENTER BACK
GRAINLINE
BACK MASTER PLAN
FRONT MASTER PLAN
SIDE SEAM
CENTER FRONT
SIDE PANEL SEAM
POCKET BAG
WAISTLINE
WELT
NEW HEMLINE

A master plan for pattern development is, like an architectural blueprint, the starting point for any design. The master plan begins from the basic pattern slopers that hold no design features. It allows visual pattern planning, and design details can be investigated for positioning or depth before the basic slopers are adapted.

Start each pattern by selecting the appropriate sloper or slopers from which you can then create a master plan; a jacket design, for example, might start with both the basic sloper and the sleeve sloper.

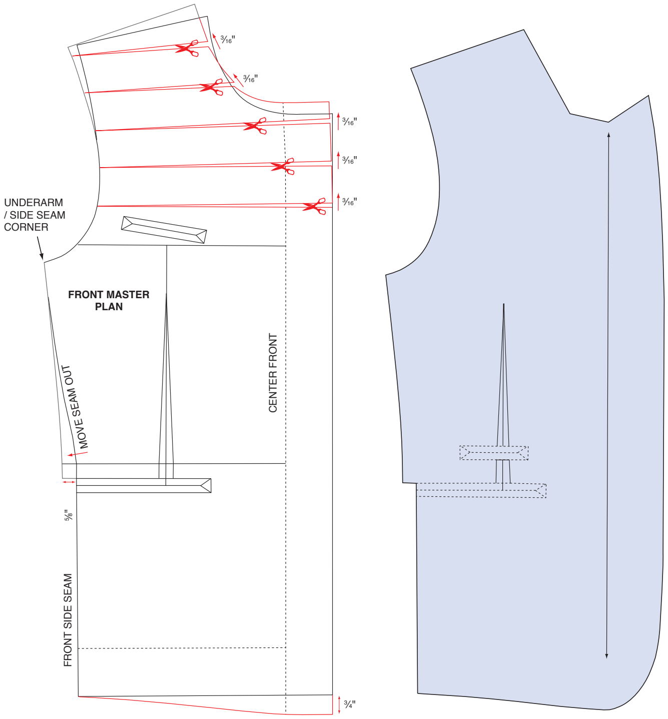
The master plan (above left) is created by tracing around the shape of the sloper onto pattern drafting paper following the instructions on pages 48–49. The style details of the design, such as yokes, style lines, darts, and pockets, are then drawn onto the master plan (above right).

Most master plans are traced from half of the sloper, and one side of the pattern is then developed before being copied, or mirrored, to create the other side of the pattern piece (see page 50). This saves time in the patternmaking process and serves to eliminate possible errors in duplicating design features from one side of the pattern to the other. The human body is generally symmetrical and, therefore, shape and silhouette development need only be done to one half of the body if the design is balanced. Even if the design is asymmetric, drafting one half of the pattern and then copying over the drafted shape to create the other side before working on the full front or back body pattern is a quick way to achieve the desired style.

Pattern shapes are then traced off the master plan, which is never cut but instead left intact for reference, serving as a blueprint and record of the pattern development.

DESIGN DEVELOPMENT PATTERNS

While developing the pattern, it may be necessary to trace off shapes from the master plan for further development—these are called design development patterns. Complicated design features may need to be slashed and spread (see page 56) to add fullness or pleats, or panel shapes may need to be opened up through pivoting techniques (see page 56) to achieve cylindrical silhouettes on the final pattern. When tracing the pattern shapes from the master plan all marks made on the master plan, such as notches or seam allowance, should also be transferred to the development pattern. Once the pattern shapes have been developed, these development patterns can then be taped to another piece of paper before the designer pattern is traced off.

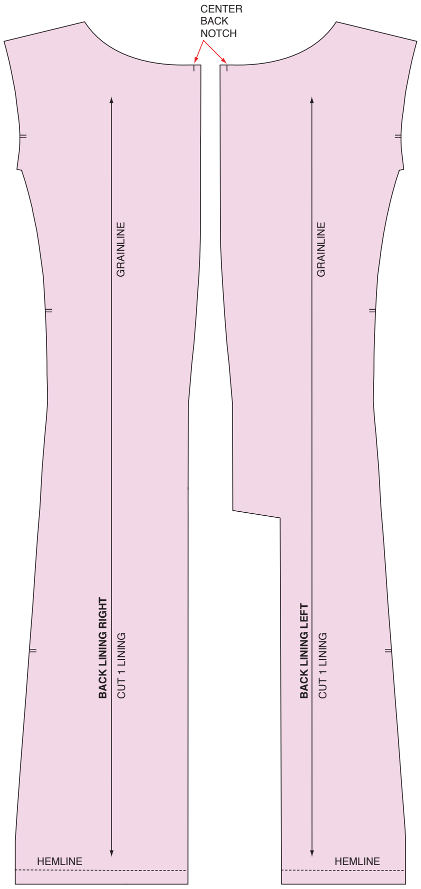

3⁄16"
3⁄16"
3⁄16"
3⁄16"
3⁄16"
UNDERARM / SIDE SEAM CORNER
FRONT MASTER PLAN
CENTER FRONT
MOVE SEAM OUT
5⁄8"
FRONT SIDE SEAM
3⁄4"

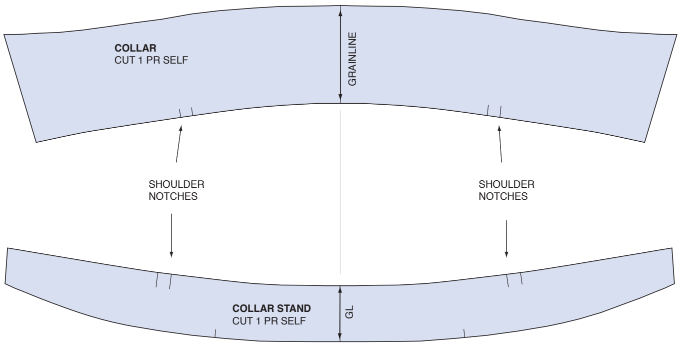
DESIGNER PATTERNS

The pattern shapes may be either traced directly from the master plan or from design development patterns onto patternmaking paper to create the designer pattern. The designer pattern is then used to create a muslin, sample, or test garment for fitting prior to production.

At this stage patterns that have been designed in half, and that need to be created as shapes with a left- and right-hand side, are copied or mirrored. Annotation is also added, such as grainlines, notches, and drill holes for darts, together with seam allowances (see pages 50–51).

In this book designer patterns are shown in blue; patterns for linings are shown in pink.


CENTER BACK NOTCH
GRAINLINE
GRAINLINE
BACK LINING RIGHT
CUT 1 LINING
BACK LINING LEFT
CUT 1 LINING
HEMLINE
HEMLINE


COLLAR
CUT 1 PR SELF
GRAINLINE
SHOULDER NOTCHES
SHOULDER NOTCHES
COLLAR STAND
CUT 1 PR SELF
GL

PRODUCTION PATTERNS

Once the muslin or sample garment has been approved the production patterns are traced from the designer patterns. These are then graded (see pages 52-53) and used for mass garment manufacture. They are cut from card with all annotations added. Every part of the garment will have a corresponding pattern piece.

Left and right patterns

In this book, all the master plans and pattern developments start with the pattern shape for the right-hand side of the garment as you would see it if you were the wearer, and this is how all the patterns are labeled. If you are looking at the pattern, or a pair of patterns, from the front, the right pattern would be on the left and vice versa.

Left: Production patterns.

Below: A woman uses a band blade to cut multiple garment pieces.

BASIC UPPER BODY SLOPER

The method introduced here is a guide to developing the basic men's upper body sloper with no annotation or seam allowances. All the measurements given are an approximation of a UK standard size 38in (chest circumference 38in plus 5in full body garment ease = 43in), which is generally regarded as a medium in the industry. The half front upper body sloper is developed on top of the half back upper body sloper and will need to be traced off and mirrored over separately before following the pattern adaptations in subsequent chapters. These slopers will serve as a starting point for all the drafts in this book (except pants) or for your own designs. You can also use measurements from the size charts on pages 32–33 to make the sloper in a different size to fit your model or form.

Measurements used for this size 38in block

Chest circumference = 38in
Full garment ease = 5in
Half chest circumference = 19in
Half ease = 2⅜in
Quarter chest circumference = 9½in
Quarter ease = $1\frac{3}{16}$in

Armhole (scye) depth

Small = 8¼in; Medium = 8⅝in; Large = 9in; X-large = 9⅜in (grade increment = ⅜in)

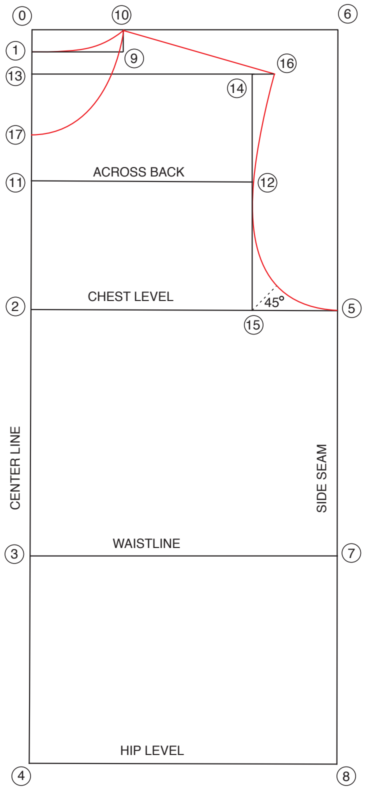
Measurements needed to draft sloper

Quarter chest circumference = 9½in
Armhole (scye) depth = 8⅝in
Center back neck to waist = 17⅞in
Waist to hip = 7⅞in
Garment length = 25¾in
Half across back measurement = 7⅞in
Neck base circumference = 15⅜in

STEP 1

DEVELOPING THE BASIC UPPER BODY SLOPER FRAME

- Cut a large piece of drafting paper slightly longer than the length of your torso or fit model.
- Using a yardstick, draw a vertical line down the left-hand side of your drafting paper; make a mark at the top of this line and label it *(0)*.
- From (0) measure down ¾in, mark and label *(1)*. This is the *center back neck point*.
- From (1) measure down 8⅝in (armhole depth); mark and label *(2)*. This is a variable measurement dependent on the figure type and arm girth.
- From (1) measure down 17⅞in (back neck to waist); mark and label *(3)*.
- From (1) measure down 25¾in (garment length); mark and label *(4)*. The garment length is a variable measurement dependent on the silhouette you want to create. In this instance, it is determined by adding the center back neck to back waist measurement (17⅞in) to the waist to hip measurement (7⅞in).
- From (2) square across one-quarter of the chest measurement plus one-quarter of the garment ease 10⅝in; mark and label *(5)* (*chest level*).
- Repeat this from (0): square across one-quarter of the chest measurement plus one-quarter of the garment ease 10⅝in; mark and label *(6)*.
- From (3) square across one-quarter of the chest measurement plus one-quarter of the garment ease 10⅝in; mark and label *(7)* (*waistline*). From (4) square across one-quarter of the chest measurement plus one-quarter of the garment ease 10⅝in; mark and label *(8)* (*hip level*).
- Join points (6), (5), (7), and (8) with a straight line; this will become your *side seam*.
- From (1) square out one-fifth of the neck base circumference plus ¼in = 3⅜in; mark and label *(9)*.



- From (9) square up ¾in and label (10). Using a French curve, draw in the back neckline from (10) to (1).
- The measurement (1) to (11) is half the measurement (1) to (2) = 4⅜in; mark and label *(11)*.
- Square out from (11) half the across back measurement 7⅞in; mark and label *(12)*. This is a variable measurement and ⅜–¼ in of ease may need to be added depending on the amount of ease added to the chest circumference. If the armhole shape is too deep or flat at the underarm, add

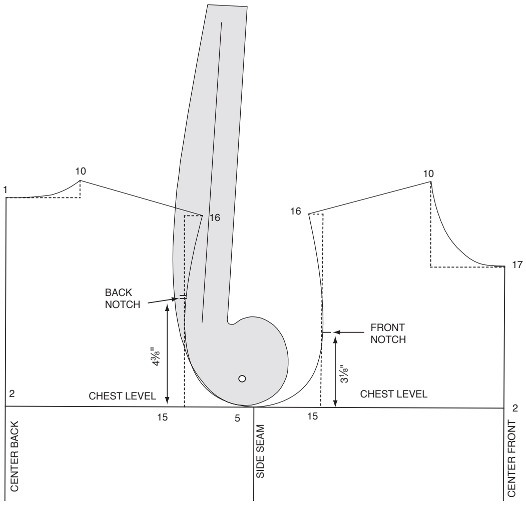
ease to the across back measurement; this will narrow the underarm and extend the shoulder length.

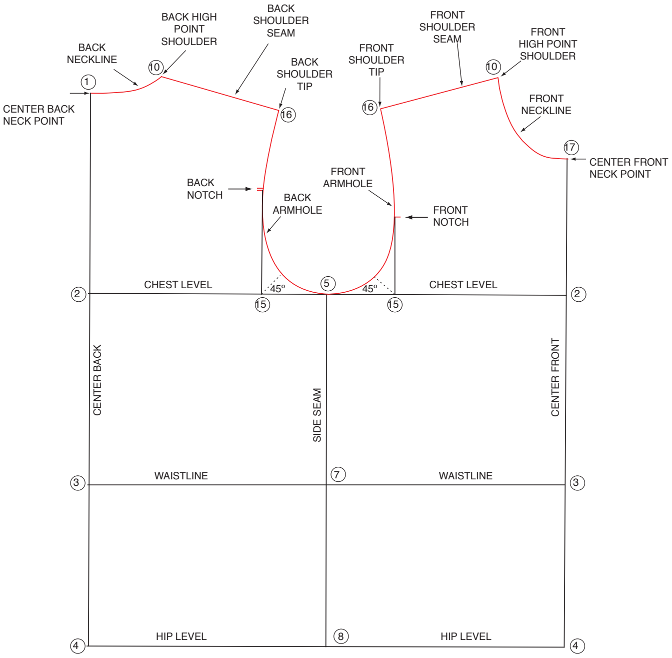
- From (1) square down one-eighth of the armhole depth minus 5/16in (3/4in); mark and label *(13)*.
- From (13) square across the same measurement from (11) to (12) half the across back measurement plus ease if needed; mark and label *(14)*.
- From (14) square down through (12) until you reach the line (2) to (5); mark and label *(15)*.
- At (14) square out 11/16in; mark and label *(16)*; this is your *front and back shoulder tip*. Draw a line from (10) front and back high point shoulder to (16); this is your *front and back shoulder seam*.
- From (15) at a 45-degree angle measure out 1 3/16in; mark.
- Draw in the armhole shape from (16) using the whole French curve, draw a line that passes through (12), continuing down to pass through the mark you made from (15) to finish at (5). This is the *front and back armhole*.
- From (1) measure down one-fifth of the neck base circumference minus 5/16in (2 3/4in); mark and label *(17)*. Using the cylindrical part of a French curve draw a line from (10) to (17). This is the *front neckline*.

STEP 2

TRACING OFF THE FRONT AND BACK SLOPERS

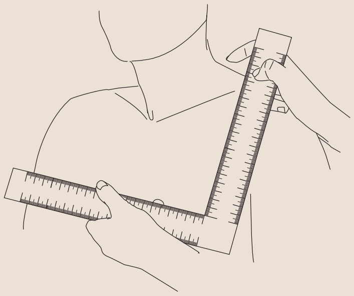
- Cut a large piece of drafting paper slightly longer than the sloper you have just developed and twice the width.
- Draw a vertical line down the center of the piece of paper longer than the upper body sloper. This will be the side seam line for the front and back upper body slopers once traced.
- Place the new paper over the master pattern you have just drafted, aligning side seams together. To the left-hand side trace the upper body sloper off with the back neckline from the master. Turn over the paper so that the back upper body sloper is now aligned to the right side of the seam line.
- Trace around the same sloper, drawing in the front neckline. Turn over the paper and retrace around the front upper body sloper so that you have both sides of the upper body sloper marked on one side.
- Mark the back and front notches on the slopers you have just traced; measure up 4 3/4in from (15) on the back upper body sloper where it intersects the back armhole line. Make two marks and label *back notch*.
- Measure up 3 1/8in from (15) on the front upper body sloper where it intersects the front armhole line. Mark and label *front notch*.

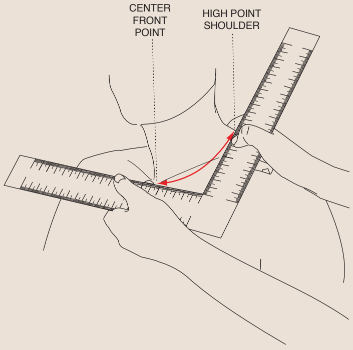

10
1
16
10
16
17
BACK NOTCH
4 3/8"
FRONT NOTCH
3 1/8"
2
CHEST LEVEL
CHEST LEVEL
2
15
5
15
CENTER BACK
SIDE SEAM
CENTER FRONT


BACK HIGH POINT SHOULDER
BACK SHOULDER SEAM
FRONT SHOULDER SEAM
BACK NECKLINE
BACK SHOULDER TIP
FRONT SHOULDER TIP
FRONT HIGH POINT SHOULDER
10
10
1
CENTER BACK NECK POINT
16
16
FRONT NECKLINE
17
CENTER FRONT NECK POINT
BACK NOTCH
FRONT ARMHOLE
BACK ARMHOLE
FRONT NOTCH
CHEST LEVEL
45°
5
45°
CHEST LEVEL
2
15
15
2
CENTER BACK
SIDE SEAM
CENTER FRONT
3
WAISTLINE
7
WAISTLINE
3
HIP LEVEL
8
HIP LEVEL
4
4

Calculating the width and depth of the front neckline

To measure the position of the front high point shoulder and the center front neck point, through which to draw the front neckline, hold a right-angled ruler against the neck of your fit model or dress form, keeping it horizontal to the ground. This will give you the depth of the CF neck.



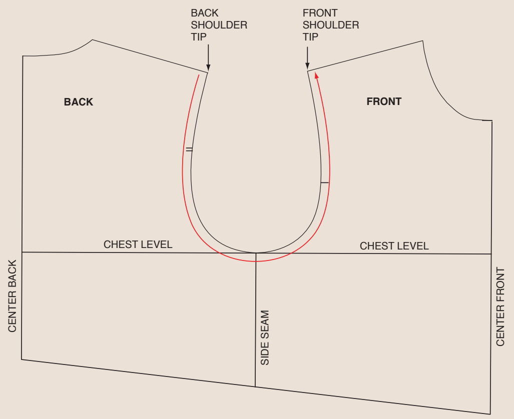

CENTER FRONT POINT
HIGH POINT SHOULDER

BASIC SLEEVE SLOPER

The method introduced here is a guide to developing the basic men's sleeve sloper with no annotation or style lines. All the measurements given here are for a sample size 38in. This sloper will serve as a starting point for all the drafts in this book, or for your own designs. You can also use measurements from the size charts on pages 32–33 to make the sloper in a different size, or use your own measurements taken from your fit model or male dress form.

Measurements used for this sleeve sloper, corresponding to a size 38in upper body sloper

Armhole = 19¼in + 1in ease = 20¼in
Sleeve length to wrist = 27½in
Top of sleeve cap to elbow length = 16⅛in
Upper biceps circumference = 14in



Taking the armhole measurement from the basic upper body sloper

The armhole measurement needs to be taken from your basic upper body sloper. Place a tape measure at the back shoulder tip and walk it round the curve up to the front shoulder tip.

If you are developing your basic slopers to your own measurements, just replace the armhole measurement above with the one you have taken.

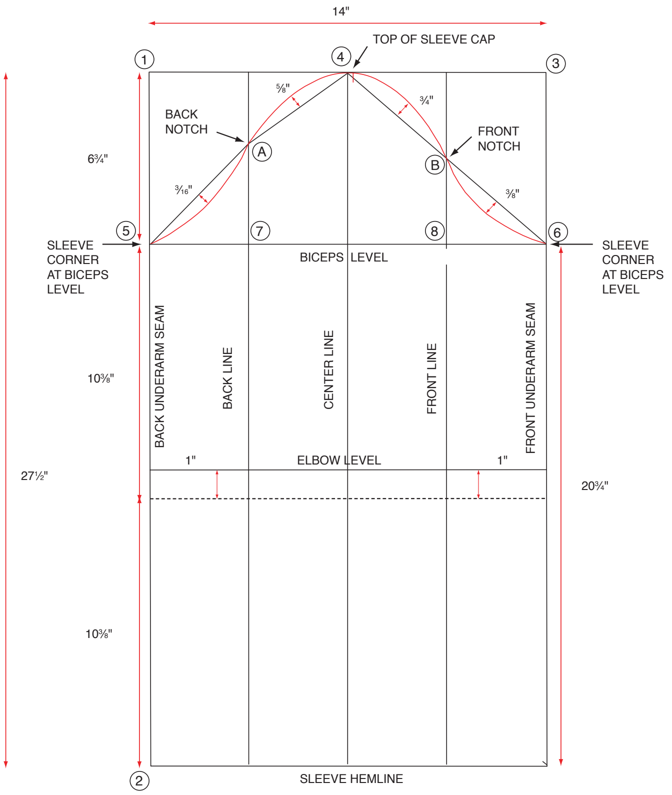
STEP 1

DEVELOPING THE BASIC SLEEVE SLOPER

- Cut a large piece of drafting paper slightly longer than the length of your sleeve measurement or the arm length of your fit model.
- Using a ruler, draw a vertical line down the left-hand side of the drafting paper; make a mark at the top of this line and label it (1). This is the *back underarm seam*.
- From (1) square across 14in to the right (the circumference of the biceps); make a mark and label it (3).
- From (1) square down 27½in (the length of the sleeve); make a mark and label it (2). Square across from (2) and down from (3) to create a rectangle.
- Divide the width of the rectangle vertically into four narrower equal-sized rectangles, naming the lines between them, from the left, *back line*, *center line*, and *front line*. Label the long side of the rectangle on the right-hand side *front underarm seam*. Label the top of the center line (4).
- From (1) measure down one-third of the armhole measurement—6¾in, which is the height of the sleeve cap; make a mark and label it (5). This is the *sleeve corner at biceps level*. Square across to intersect the front underarm seam from (3); make a mark and label it (6). This is the *sleeve corner at biceps level*. The line you have drawn is the *biceps level*. Label the point where this line intersects the *back line* as (7) and the *front line* as (8).
- From (7) measure up 4in (one-sixth of the armhole measurement of 3⅜in + ⅝in = 4in); draw a notch and label it (A). This is the *back notch*.
- From (8), measure up 3⅜in (one-sixth of the armhole measurement); draw a notch and label it (B). This is the *front notch*.

Shape of the armhole

The front notch is lower than the back notch to allow for the deeper curve at the front of the sleeve. This accommodates the shape of the sleeve and also allows the arm to move forward.


14"
TOP OF SLEEVE CAP
①
④
③
⅝"
¾"
BACK NOTCH
FRONT NOTCH
Ⓐ
Ⓑ
6¾"
³⁄₁₆"
⅜"
⑤
⑦
⑧
⑥
SLEEVE CORNER AT BICEPS LEVEL
SLEEVE CORNER AT BICEPS LEVEL
BICEPS LEVEL
BACK UNDERARM SEAM
BACK LINE
CENTER LINE
FRONT LINE
FRONT UNDERARM SEAM
10⅜"
1"
ELBOW LEVEL
1"
27½"
20¾"
10⅜"
②
SLEEVE HEMLINE

- Now you will draw in the curved sleeve cap.
- Draw a straight line from (5) to (A); halfway along this line square down 3⁄16in; connect (5) to (A) with a hollow curve through this point.
- Draw a straight line from (A) to (4); halfway along this line square up 5⁄8in; connect (A) to (4) with a raised curve through this point.
- Draw a straight line from (4) to (B); halfway along this line square up 3⁄4in; connect (4) to (B) with a raised curve through this point.
- Draw a straight line from (B) to (6); halfway along this line square down 3⁄8in; connect (B) to (6) with a hollow curve through this point.
- Divide the length of the sleeve below the sleeve cap in half (subtract the sleeve cap height from the sleeve length (27½in - 6¾in = 20¾in) and divide in half (20¾in / 2 = 10⅜in). Measure 10⅜in from (5) down the back underarm seam and mark, then square across. From this line measure 1in back up toward the biceps level, make a mark, and square across. This is the *elbow level*.
- Notch the top of the sleeve cap by measuring 3⁄16in from (4) along the sleeve cap toward the front notch.

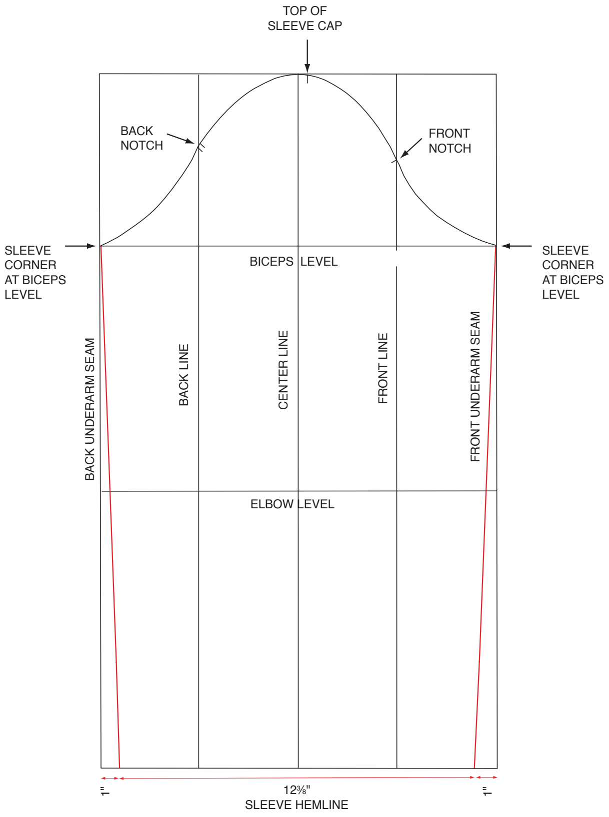
Measuring the sleeve cap and adding ease

At this point you should measure your newly drafted sleeve cap, which should be 1in larger than the armhole. This ease is distributed during construction between the notches to give shape to the sleeve cap. You can add more or less ease depending on your sleeve shape, fabric, or design.

STEP 2

SHAPING THE UNDERARM SEAMS

- Measure in 3⁄4in from both back and front underarm seams at the sleeve hemline and mark.
- From both points redraw the new back and front underarm seam lines back up to the corners of the sleeve at biceps level to create a tapered sleeve shape.


TOP OF SLEEVE CAP
BACK NOTCH
FRONT NOTCH
SLEEVE CORNER AT BICEPS LEVEL
SLEEVE CORNER AT BICEPS LEVEL
BICEPS LEVEL
BACK UNDERARM SEAM
BACK LINE
CENTER LINE
FRONT LINE
FRONT UNDERARM SEAM
ELBOW LEVEL
1"
12⅜"
1"
SLEEVE HEMLINE

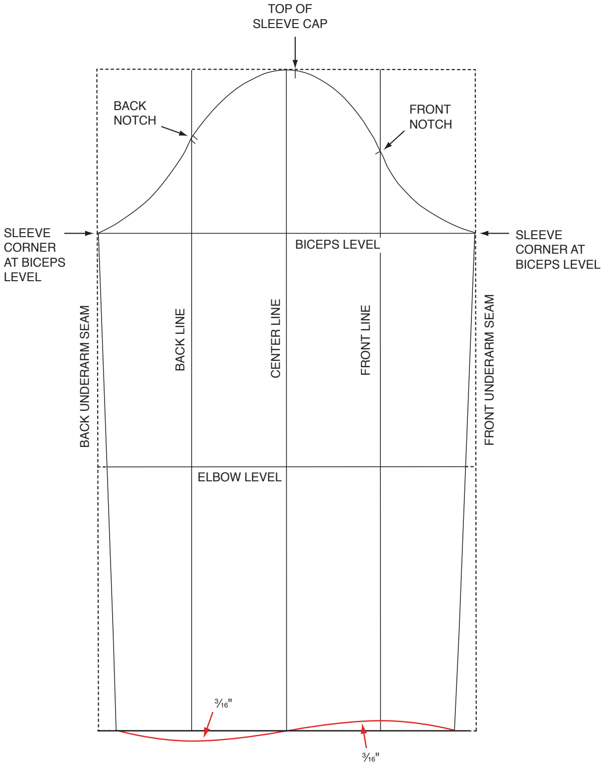
STEP 3

TO SHAPE THE SLEEVE HEMLINE FOR THE ADDITION OF A CUFF

Adding a cuff to a sleeve

The sleeve hemline is shaped for the addition of the cuff panel with a curve that is concave on the back sleeve and convex on the front. This is to balance the cuff shape around the cylindrical shape and hinged movement of the arm.

- From the center line, divide the width of the new sleeve hemline at the front and back of the sleeve in half and mark.
- On the back sleeve hemline, measure down 3⁄16in from this point and mark; and on the front measure up 3⁄16in and mark.
- From the corner of the back underarm seam, draw a convex curve to the center line through the point on the back, then reverse and draw a concave curve to the front underarm seam through the point on the front.


TOP OF SLEEVE CAP
BACK NOTCH
FRONT NOTCH
SLEEVE CORNER AT BICEPS LEVEL
BICEPS LEVEL
SLEEVE CORNER AT BICEPS LEVEL
BACK UNDERARM SEAM
BACK LINE
CENTER LINE
FRONT LINE
FRONT UNDERARM SEAM
ELBOW LEVEL
3⁄16"
3⁄16"

BASIC PANT SLOPER

The method introduced here is a guide to developing the basic men's pant sloper with a ¾in back waist dart for shape above the buttocks and a 1⅝in front pleat for ease of movement. The silhouette is straight with no annotation or style lines added. All the measurements given are for a sample size 32in (81cm) waist, which accompanies a size 38in (96.5cm) chest. This sloper will serve as a starting point for all the pant drafts in this book, or for your own designs. You can also use measurements from the size charts on pages 32–33 to make the sloper in a different size, or use your own measurements taken from your fit model or male dress form.

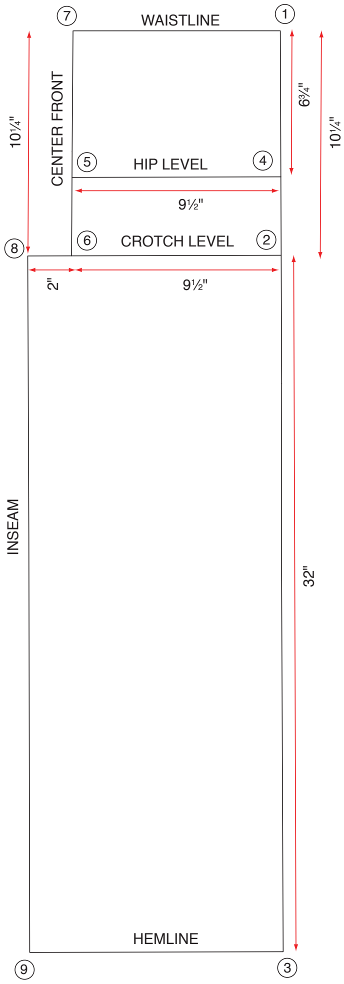
Measurements used for this size 32in (81cm) pant sloper
Waist circumference = 32in + 1³⁄₁₆in ease = 33³⁄₁₆in
Total hip circumference = 37¾in + 4in ease (1in ease on each of the four panels) = 41¾in
Front hip measurement = 18⅞in
Back hip measurement = 22⅞in
Crotch depth = 10¼in
Outside leg measurement = 42⅛in
Inside leg measurement = 32in

The modern man has diligently followed fashion when it comes to how he wears his pants and jeans. From high-waisted to low-riding, the waistline seems to be in a state of cultural flux. The natural waist in most men is the smallest measurement around the circumference of the abdomen or stomach. Generally most pants are designed to sit between this and the hip—the most comfortable point for movement, with the waistband line being dropped 2in below the natural waist on average, depending on the design.

STEP 1

DEVELOPING THE BASIC PANT SLOPER FRAME

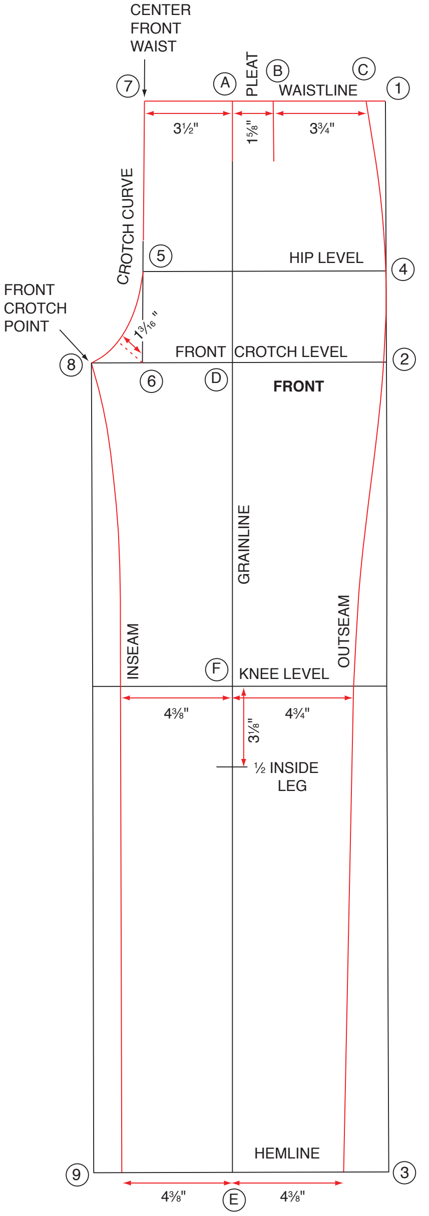
- Cut a large piece of drafting paper slightly longer than the length of your pant design or the leg length of your fit model.
- Using a ruler, draw a vertical line down the right-hand side of the paper; make a mark at the top and label it (1). This is the *outside leg* or *outseam*. Square across to the left. This is the *waistline*.
- From (1) measure down 10¼in; make a mark and label it (2). This is the *crotch depth*.
- From (2) measure down 32in; make a mark and label it (3). This is the length of the *inside leg*. Square across to the left. This is the *hemline*.
- From (1) measure down 6¾in; make a mark and label it (4).
- From (4) square across to the left one-quarter of the hip circumference minus 1in to find the front hip measurement (10½in – 1in = 9½in); make a mark and label it (5). This is the *hip level*.
- From (2) square across to the left one-quarter of the hip circumference minus 1in (10½in – 1in = 9½in); make a mark and label it (6). This is the *crotch level*.
- From (6) measure up 10¼in; make a mark and label it (7). This line is the *center front*.
- From (6) square across to the left one-quarter of the measurement from (4) to (5) minus ⅜in (2⅜in – ⅜in = 2in); make a mark and label it (8).
- From (8) measure down 32in to intersect with the hemline; make a mark and label it (9). This is the *inseam*.



STEP 2

DEVELOPING THE FRONT PANT SLOPER

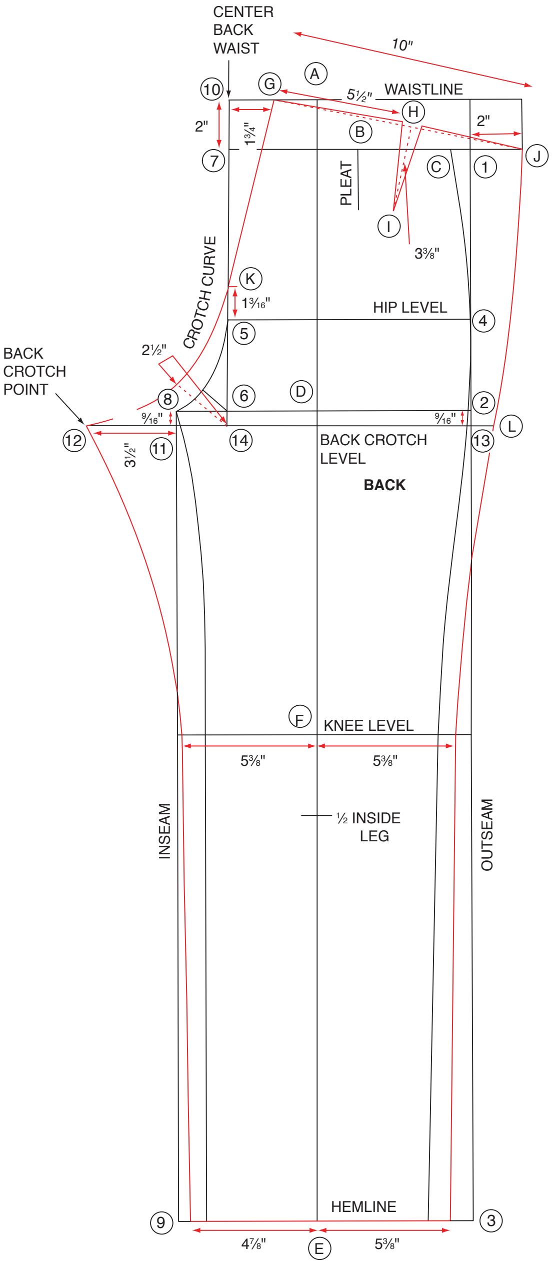
- To find the waist measurement, you need to work back from the wider front hip measurement. From (7) measure across $3\frac{1}{2}$in toward the side seam; make a mark and label it (A). From (A) square down to the hemline and label it *grainline*. This will also become one side of the pleat.
- From (A) continue to measure across $1\frac{5}{8}$in for the pleat; make a mark and label it (B). The pleat width can be adjusted according to the fit required.
- From (B) measure across the remainder of the front hip measurement minus $\frac{5}{8}$in ($4\frac{3}{8}$in - $\frac{5}{8}$in = $3\frac{3}{4}$in) and label it (C). Shape down to (4). This is the *outseam*.
- To shape the crotch, measure out $1\frac{3}{16}$in from (6) at a 45-degree angle and make a mark. Draw a curved line from (5) to (8) passing through this point.
- Make a mark where the grainline passes through the crotch level and label it (D), and another where the grainline meets the hemline and label it (E).
- To find the knee level, divide the measurement from (D) to (E) along the grainline (which is also the inside leg measurement) in half; make a mark and then measure up $3\frac{1}{8}$in; make a mark and label it (F); square across $4\frac{3}{8}$in toward the inside leg and $4\frac{3}{4}$in toward the outside leg or side seam. This is the *knee level*.
- To create the hem width, from (E) square across $4\frac{3}{8}$in toward the inside leg and make a mark and $4\frac{3}{8}$in toward the outseam and make a mark.
- Draw the *inseam* and the *outseam* as gentle curves from these points back to (8) and (4) respectively, passing through the points you marked at each end of the knee level.


CENTER FRONT WAIST
⑦
Ⓐ
PLEAT
Ⓑ
Ⓒ
WAISTLINE
①
3½"
1⅝"
3¾"
CROTCH CURVE
⑤
HIP LEVEL
④
FRONT CROTCH POINT
1³⁄₁₆"
⑧
FRONT
CROTCH LEVEL
②
⑥
Ⓓ
FRONT
GRAINLINE
INSEAM
OUTSEAM
Ⓕ
KNEE LEVEL
4⅜"
4¾"
3⅛"
½ INSIDE LEG
HEMLINE
⑨
③
4⅜"
Ⓔ
4⅜"

STEP 3

DEVELOPING THE BACK PANT SLOPER

- The back pant sloper is developed over the front and then the two are separated when both are traced onto separate pieces of paper.
- From (7) measure up 2in; make a mark and label it (10). Then square across to the right to a point beyond (1).
- From (1) measure out 2in; make a mark and label it (J). Square up to meet the line you drew from (10).
- From (8) measure down ⅝in; make a mark and label it (11). Do the same from (2) and label the mark (13). Square across from (11) to (13). This is the *back crotch level*.
- From (11) measure out 3½in; make a mark and label it (12). This is the *back crotch point*.
- From (10) measure across 1¾in; make a mark and label it (G). This is the *center back waist*.
- From (G) draw a 10in line to (J). This is the back waist measurement including the dart width of ¾in.
- From (G) measure 5½in along the line you have just drawn; make a mark and label it (H). This marks the center of the dart.
- From (H) square down 3⅜in; mark and label it (I). This is the length of the dart. From (H) measure out ⅜in on both sides. Draw a line from each point to (I) to create the dart legs.
- Measure up 3⁄16in from the top of both dart legs and redraw the waistline back to (G) and (J). This will keep a straight line along the waistline when the dart is taken in.
- To shape the crotch, continue the center front line down from (5) through (6) to meet the new back crotch level; make a mark and label it (14). From (5) measure up 1 3⁄16in; make a mark and label it (K). From (14) measure out 2½in at a 45-degree angle and make a mark. With a French curve draw a line from (12) to (K) passing through this point and continue up with a straight line to (G). This is the *center back rise*.
- At the knee level from (F) measure out 5⅜in toward the inside leg and 5⅜in toward the outseam and mark.
- At the hemline from (E) measure out 4⅞in toward the inside leg and 5⅜in toward the side seam.
- From the back crotch point at (12) draw a curved line down to the mark at the knee level and continue with a straight line down to the mark at the hemline. This is the *inseam*.
- At (13) measure out ¾in; make a mark and label it (L).
- From the waistline at (J) draw a curved line passing through (L) to the mark you made at the knee level, continuing with a straight line down to the mark you made at the hemline. This is the *outseam*.



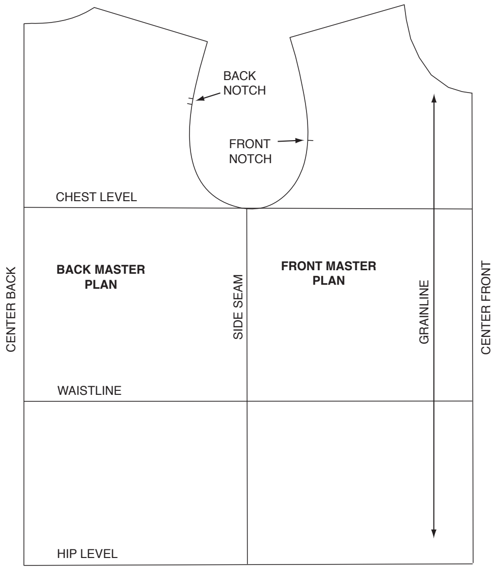
CREATING A MASTER PLAN

FROM A BASIC SLOPER

To adapt each sloper into the final pattern, the first stage is to create a master plan onto which the various features of the design are drawn. In each case, you will need to ensure that you draw the master plan onto a piece of paper that is large enough for you to draw additional elements onto the outside of the sloper.

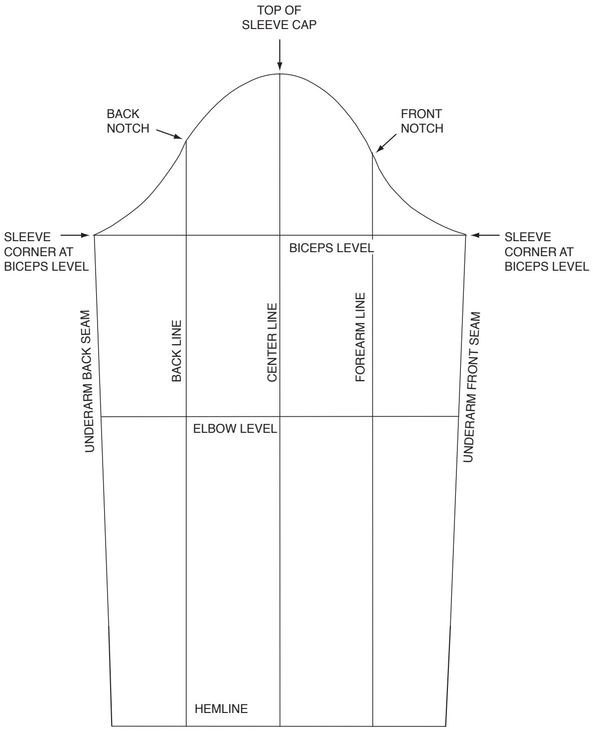
TO CREATE A MASTER PLAN FROM THE BASIC UPPER BODY SLOPER

- Cut a large piece of drafting paper slightly longer than the length of the shirt, jacket, or coat you want to develop.
- Using a ruler, draw a vertical line down the center of the drafting paper labeling it *side seam*.
- Using a set square, draw a horizontal line through the middle of the vertical line, labeling it *waistline*.
- Place the front sloper to the right side of the vertical line, lining up the waistline and the side seam.
- Draw round the sloper, making sure that you indicate all the notches marked, and transfer the grainline. Label it *front master plan* and also label the *center front*.
- Place the back sloper to the left side of the vertical line, lining up the waistline and side seam.
- Draw round the sloper as before. Label it *back master plan* and also label the *center back*.
- If the sloper you have chosen has chest level and hip level indicated, transfer these to the master plan and label them *chest level* and *hip level*.


BACK NOTCH
FRONT NOTCH
CHEST LEVEL
BACK MASTER PLAN
FRONT MASTER PLAN
CENTER BACK
SIDE SEAM
GRAINLINE
CENTER FRONT
WAISTLINE
HIP LEVEL

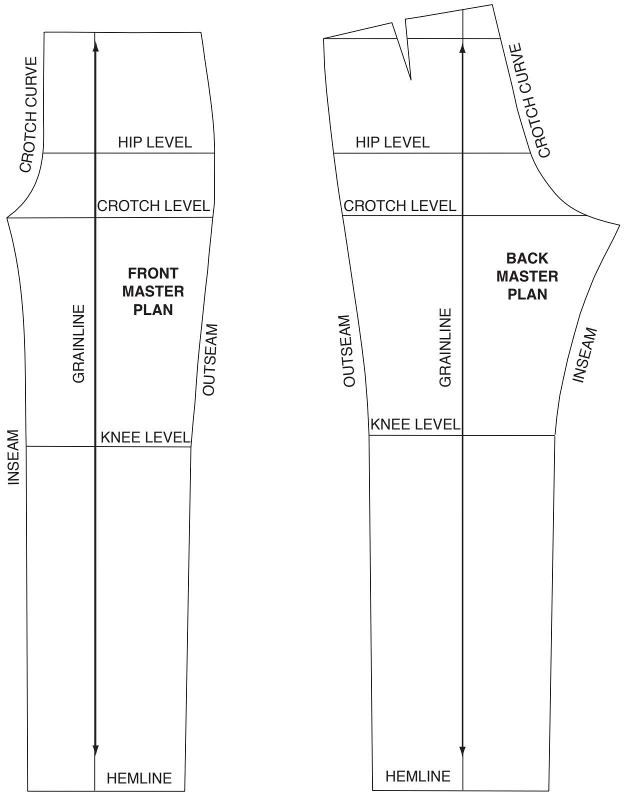
TO CREATE A MASTER PLAN FROM THE SLEEVE SLOPER

- Cut a large piece of drafting paper slightly longer than the length of the sleeve you want to develop.
- Draw a vertical line down the center of the drafting paper, longer than the sleeve sloper, and label it *center line*.
- One-quarter of the way down use a set square to draw across a horizontal line through the center line and label it *biceps level*.
- Align the center line and the biceps level on the sleeve sloper with the center line and the biceps level drawn on the paper.
- Draw round the basic sleeve sloper, making sure that you indicate all the notches and the top of the sleeve cap.


TOP OF SLEEVE CAP
BACK NOTCH
FRONT NOTCH
SLEEVE CORNER AT BICEPS LEVEL
BICEPS LEVEL
SLEEVE CORNER AT BICEPS LEVEL
UNDERARM BACK SEAM
BACK LINE
CENTER LINE
FOREARM LINE
UNDERARM FRONT SEAM
ELBOW LEVEL
HEMLINE

TO CREATE A MASTER PLAN FROM THE PANT SLOPER

- Cut a large piece of drafting paper slightly longer than the length of the pant you want to develop.
- Using a ruler, draw a vertical line down the center of the drafting paper, longer than the pant sloper, and label it *center grainline*.
- One-quarter of the way down use a set square to draw across a horizontal line through the center grainline and label it *crotch level*.
- Align the center grainline and the crotch level on the basic pant leg slopers with those you have drawn on the paper.
- Draw around the slopers, making sure that you indicate the notches, waist dart, and hip level.
- It is important that you align the front and back pant slopers horizontally.


CROTCH CURVE
HIP LEVEL
CROTCH LEVEL
FRONT MASTER PLAN
GRAINLINE
OUTSEAM
INSEAM
KNEE LEVEL
HEMLINE
HIP LEVEL
CROTCH CURVE
CROTCH LEVEL
BACK MASTER PLAN
OUTSEAM
GRAINLINE
INSEAM
KNEE LEVEL
HEMLINE

Assessing the design

Before starting to create any pattern you should first assess the design using a menswear dress form or fit model. The sloper that you have selected might be longer or shorter than the design you are developing. Analyze by taking a measurement from your fit model or form and by consulting your size chart, or even using competitors' garments as comparison.

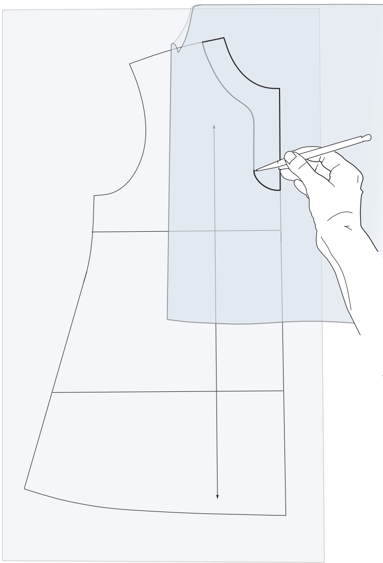
Look at design features such as the placket on a shirt or the closure on a cuff. Look at the length and consider the way that a garment might be worn. Shirts, for example, are generally tucked into jeans, pants, or shorts, so the length of the sloper that you have selected might need to be extended. Refer back to your dress form, samples, or drawings and photos that you may have collected. For example, the yoke at the back of a shirt would start part way down the back shoulder; to find this position you can attach a piece of cotton tape to your form to help you assess the proportions against your design drawing.

HOW TO TRACE OFF A PATTERN FROM THE MASTER PLAN OR DEVELOPMENT PATTERNS

TRACING HALF THE PATTERN SHAPE FROM THE MASTER PLAN AND THEN CREATING THE FULL PATTERN SHAPE

Collars, stands, yokes, and some body panels are developed as half patterns on the master plan. When complete they will need to be mirrored to create the full pattern shape. When doing this, the center of the pattern is usually aligned on the center front or center back lines.

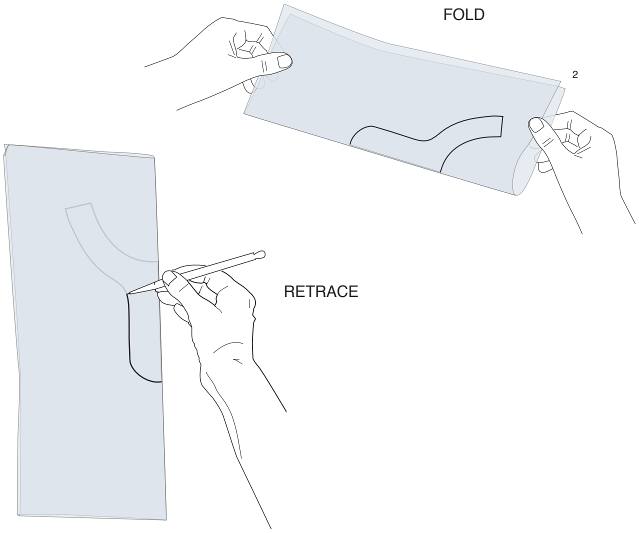
- Using opaque paper placed over the master plan or development pattern, trace off the half pattern shape, leaving enough room on the paper to the other side of the pattern shape to fold the paper in half down the center front or center back.


TRACE

Adding details to one half of the pattern only

If a detail, such as a pocket, appears on only the right side of the pattern, add it before mirroring (and then avoid copying it during the mirroring process); if it appears on the left-hand side, add it after the pattern has been mirrored.

- Transfer all the annotation marked on the master plan, including the grainline, notches, and drill holes.
- Add seam allowance in accordance with the construction process (see page 60).
- Fold the paper in half down the center front or center back line.
- Turn the paper over and retrace the pattern shape on the other side to create the full pattern shape. Add all the annotation necessary to complete the pattern.

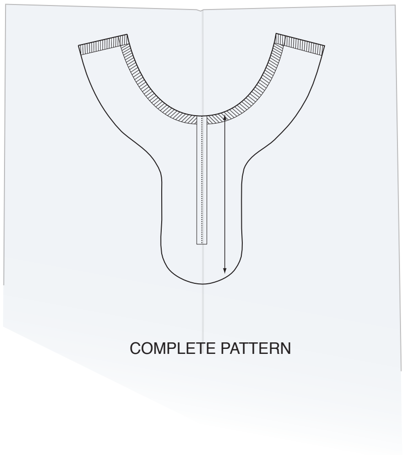

FOLD

RETRACE

TRACING COMPLETE PATTERN PIECES DIRECTLY FROM THE MASTER PLAN

Some pattern pieces, such as a sleeve or a pocket, can be traced directly from the master plan or from a development pattern.

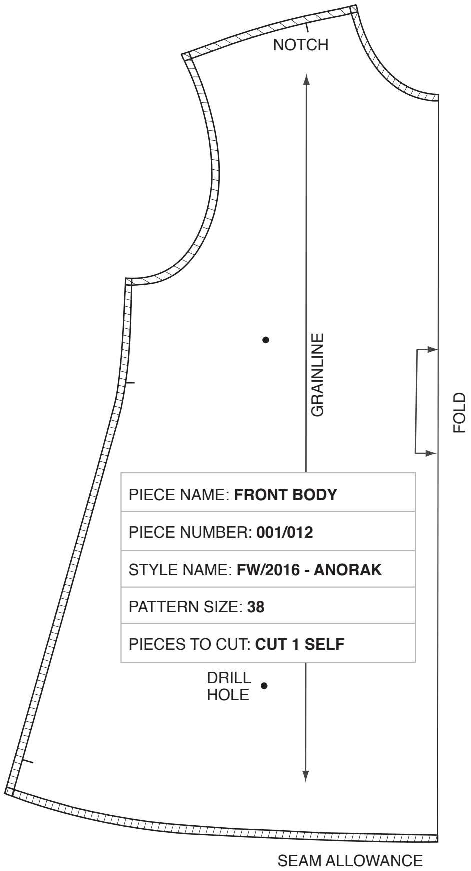
- Using opaque paper placed over the master plan or development pattern, trace off the pattern shapes.
- Transfer all the annotation marked on the master plan, including the grainline, notches, and drill holes.
- Add seam allowance in accordance with the construction process (see page 60).


COMPLETE PATTERN

ANNOTATION

Annotation is the technical language placed on the pattern to communicate information about the pattern, garment, or its construction to the manufacturer. It should be written onto each production pattern piece clearly and centrally, or it can be marked on using a range of symbols. The language used varies between countries, manufacturers, fashion labels, and patternmakers. Some of the annotation can also be written onto the master plan or development patterns during the patternmaking process, such as the grainline, drill holes, or notches.

Listed below are basic annotations used throughout the industry.



Piece name
This identifies the pattern shape; whether it is a sleeve, the front right or front left body panel, or a pocket bag.

Style identifying number or name
This could be an abbreviation, such as FW/001 (Fall/Winter collection style number 1), or could include the name of the theme of the collection.

Piece number
Since many patterns are made from several pattern pieces, this identifies the pattern piece within the set. It is either written as 1/7 or 1 of 7, meaning piece one in a set of seven.

Pattern size
This is the size of the garment, for example: 34, 36, 38, 40, 42 (or S, M, L, XL, etc.)

Number of pieces to be cut from each pattern piece
This is abbreviated to the following symbols:
(Self)—Cut the pattern from the main fabric for the garment
(Cut 1 PR Self)—Cut one pair (right and left) from the main fabric for the garment
(Cut 1 Self)—Cut a single pattern piece from the main fabric
(Cut 1 Mirrored)—cut one of this pattern piece flipped over onto its other side.
You can also add additional information for cutting patterns from fusing or lining fabric (Cut 1 Self & 1 Fusing).
Asymmetric designs need to be marked with the abbreviation RSU (right side up), meaning place the pattern right side up on the right side of the fabric.

Fold line or symbol
Indicates that the pattern should be folded along this line.

Grainline
The grainline indicates the direction in which you want the pattern shape to be placed on the fabric. Most pattern pieces are placed on the straight grain, which runs parallel to the selvage of the fabric (see page 57).

Seam allowances
Seam allowances can be drawn on the pattern, can be indicated by notches, or the instruction can simply be written on the pattern—"$^3/_4$in seam," for example. If there is no seam allowance, use the abbreviation NSA.

Notches and drill holes
Notches and drill holes are used to convey the construction process of the garment.
Notches are made in the edge of the pattern for seam alignment, panel placement, or to indicate an area of ease.
Drill holes are used to indicate pocket placements, button positioning, and dart lengths. Place the drill hole $^3/_{16}$ to $^3/_8$in before the tip of a dart or the corner of a pocket position so that the mark is not seen from the front of the finished garment.

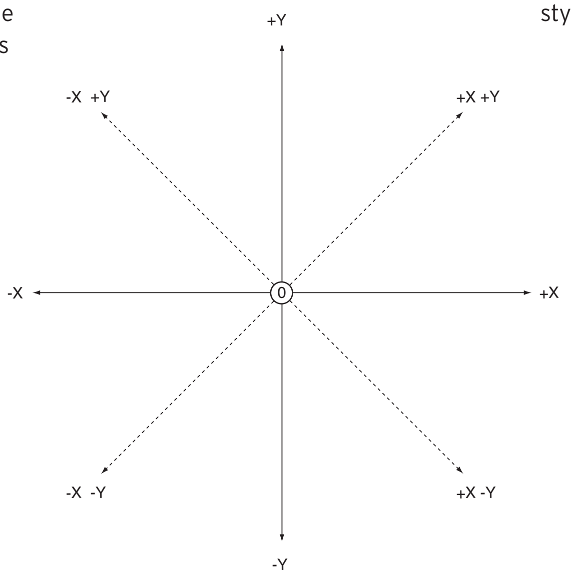
GRADING

Once the pattern is made, an understanding of grading and the use of technology in the patternmaking studio and in industry will ensure that your patterns are transferred accurately for use in production.

GRADING

At its most basic, grading is the technique of increasing the size of a garment pattern. It is not, however, a process of enlarging patterns to fit the idiosyncrasies of individual figures; those adjustments need to be carried out while adapting the sloper or in construction. Instead, grading is a system used in conjunction with a size chart to create proportional enlargements of a garment to best fit your customer base.

The grading of clothes began to appear in the middle of the nineteenth century as a very simple system that relied on measurements of height and circumference to enlarge and shrink the garment in proportional increments to create small, medium, and large sizes. Not until the commercialization of the ready-to-wear market after the 1950s did a sizing system that offered consistency of proportion begin to be adopted by manufacturers. The modern grading system is a process of adding growth values to a base pattern. Incremental measurements (the variable distance between two fixed points on a pattern) define intervals between sizes. Growth values have been defined within the clothing industry through the collection of measurement data on growth ratios (circumferences of the body and variable heights of the body) related to age and figure types. Grading can be performed both manually and by computer.

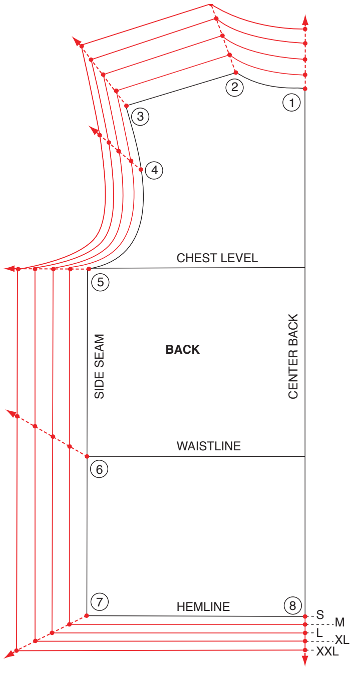


Incremental growth is recorded along two axes which are given numerical values, or coordinates. These are written as (Y), which is vertical movement plus or minus, and (X), which is horizontal movement plus or minus. These axes are at right angles to each other and the point at which they intersect is called the zero point. In the figure above values (measurable distances) are added to the X and Y coordinates which are applied to the cardinal points on the perimeter of a pattern to map out the next size or sizes.

To establish the cardinal point of a one-size grade, from the zero point take the required measurement horizontally (X); then square up the required measurement vertically (Y); connect (Y) to the zero point to create the grade line.

Grade rules dictate the growth between sizes. The starting point, or base size, represents the size that you used when developing the pattern. It may not have been the smallest size in the customer range, in which case you will have to grade both down and up.

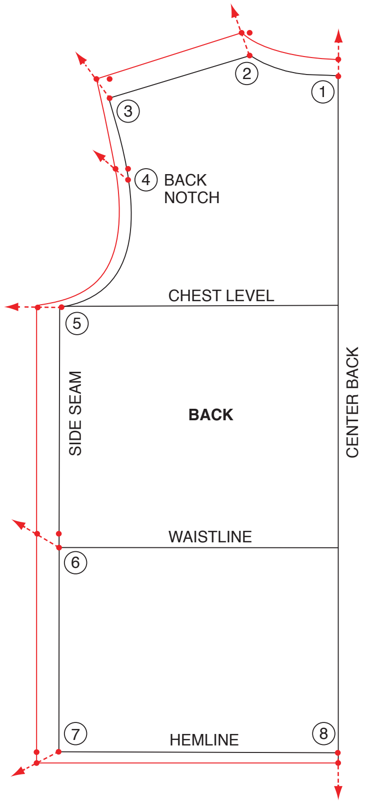
The manual grading technique outlined here is shown on basic sloper patterns without any style lines or adaptations. Once you have understood the principles of growth related to specific areas of the male body you should be able to apply them successfully to your styled patterns. The instructions are for a one-size grade up for the basic upper body, sleeve, and pant slopers with a $1\frac{5}{8}$in increment between sizes. Consult the size charts (pages 32–33) for different grade values.



Right: Back pattern showing growth increments between sizes S to XXL.

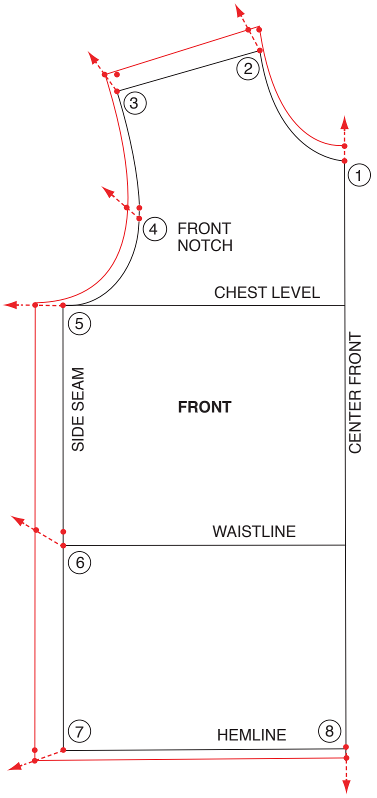
BACK UPPER BODY SLOPER

Mark (1) at the center back neck point and measure up vertically (Y) value = 5/16in
Mark (2) at the high point shoulder measure up vertically (Y) value = 5/16in and horizontally out (X) value = 1/8in
Mark (3) at the shoulder tip and measure up vertically (Y) value = 1/4in and horizontally out (X) value = 3/16in
Mark (4) at the back notch and measure up vertically (Y) value = 1/8in and horizontally out (X) value = 3/16in
Mark (5) at the underarm / side seam corner and measure horizontally out (X) value = 3/8in
Mark (6) at the waistline point and measure up vertically (Y) value = 3/16in and horizontally out (X) value = 3/8in
Mark (7) at the hemline point and measure horizontally out (X) value = 3/8in and down vertically (Y) value = 3/16in
Mark (8) at the center back hemline and measure down vertically (Y) value = 3/16in



FRONT UPPER BODY SLOPER

Mark (1) at the center front neck point and measure up vertically (Y) value = 1/4in
Mark (2) at the high point shoulder measure up vertically (Y) value = 5/16in and horizontally out (X) value = 1/8in
Mark (3) at the shoulder tip and measure up vertically (Y) value = 1/4in and horizontally out (X) value = 3/16in
Mark (4) at the front notch and measure up vertically (Y) value = 1/8in and horizontally out (X) value = 3/16in
Mark (5) at the underarm / side seam corner and measure horizontally out (X) value = 7/16in
Mark (6) at the waistline point and measure up vertically (Y) value = 3/16in and horizontally out (X) value = 7/16in
Mark (7) at the hemline point and measure horizontally out (X) value = 7/16in and down vertically (Y) value = 3/16in
Mark (8) at the center front hemline and measure down vertically (Y) value = 3/16in



SLEEVE SLOPER

Mark (1) at the back underarm seam hemline and measure horizontally out (X) value = 1/4in and vertically down (Y) value = 1/8in

Mark (2) at the front underarm seam hemline and measure horizontally out (X) value = 1/4in and vertically down (Y) value = 1/8in

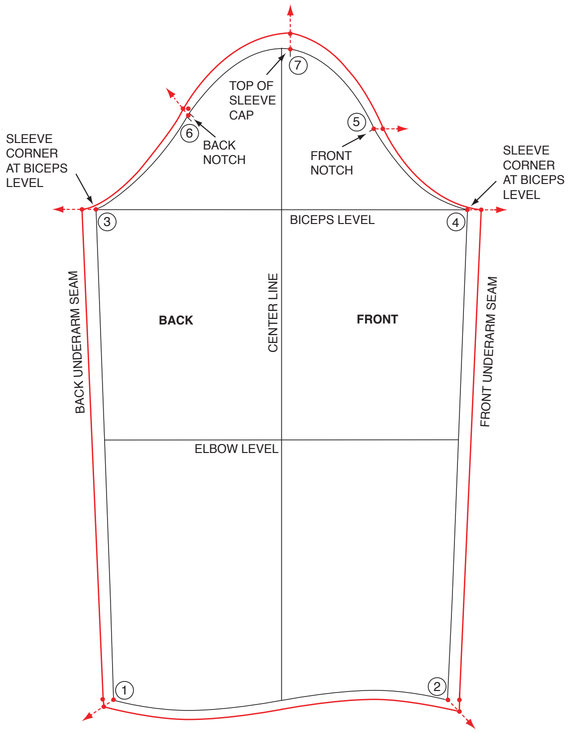
Mark (3) at the back sleeve corner at biceps level and measure horizontally out (X) value = 5/16in

Mark (4) at the front sleeve corner at biceps level and measure horizontally out (X) value = 5/16in

Mark (5) at the front notch and measure horizontally out (X) value = 3/16in

Mark (6) at the back notch and measure up vertically (Y) value = 1/8in and horizontally out (X) value = 1/16in

Mark (7) at the top of the sleeve cap and measure up vertically (Y) value = 1/4in


TOP OF SLEEVE CAP
⑦
⑥
BACK NOTCH
⑤
FRONT NOTCH
SLEEVE CORNER AT BICEPS LEVEL
SLEEVE CORNER AT BICEPS LEVEL
③
BICEPS LEVEL
④
BACK UNDERARM SEAM
BACK
CENTER LINE
FRONT
FRONT UNDERARM SEAM
ELBOW LEVEL
①
②

FRONT PANT SLOPER

Mark (1) at the center front waist point and measure up vertically (Y) value = 3/16in and horizontally out (X) value = 1/8in

Mark (2) where the hip level meets the crotch curve measure up vertically (Y) value = 1/16in and horizontally out (X) value = 1/8in

Mark (3) at the front crotch point and measure horizontally out (X) value = 1/4in

Mark (4) at the inseam knee point and measure down vertically (Y) value = 3/16in and horizontally out (X) value = 1/8in

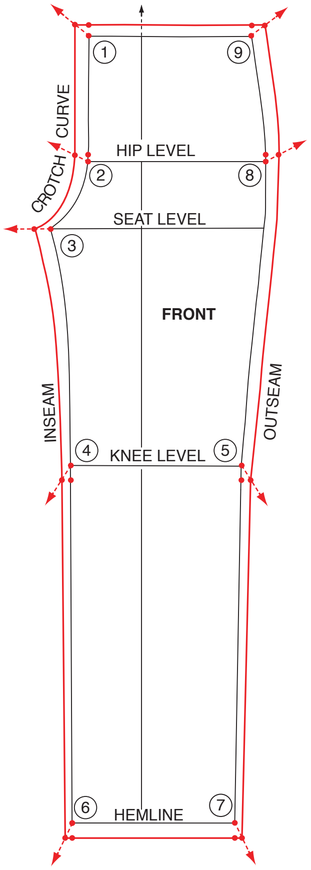
Mark (5) at the outseam knee point and measure down vertically (Y) value = 3/16in and horizontally out (X) value = 1/8in

Mark (6) at the inseam hem point and measure down vertically (Y) value = 3/8in and horizontally out (X) value = 1/8in

Mark (7) at the outseam hem point and measure down vertically (Y) value = 3/8in and horizontally out (X) value = 1/8in

Mark (8) where the hip level meets the outseam point and measure up vertically (Y) value = 1/16in and horizontally out (X) value = 1/4in

Mark (9) where the waistline meets the outseam point and measure up vertically (Y) value = 3/16in and horizontally out (X) value = 1/4in


①
⑨
CROTCH CURVE
HIP LEVEL
②
⑧
SEAT LEVEL
③
FRONT
INSEAM
OUTSEAM
④
KNEE LEVEL
⑤
⑥
HEMLINE
⑦

BACK PANT SLOPER

Mark (1) at the center back waist point and measure up vertically (Y) value = 3/16in and horizontally out (X) value = 1/8in

Mark (2) where the hip level meets the crotch curve measure up vertically (Y) value = 1/16in and horizontally out (X) value = 1/8in

Mark (3) at the back crotch point and measure horizontally out (X) value = 1/4in

Mark (4) at the inseam knee point and measure down vertically (Y) value = 3/16in and horizontally out (X) value = 1/8in

Mark (5) at the outseam knee point and measure down vertically (Y) value = 3/16in and horizontally out (X) value = 1/8in

Mark (6) at the inseam hem point and measure down vertically (Y) value = 3/8in and horizontally out (X) value = 1/8in

Mark (7) at the outseam hem point and measure down vertically (Y) value = 3/8in and horizontally out (X) value = 1/8in

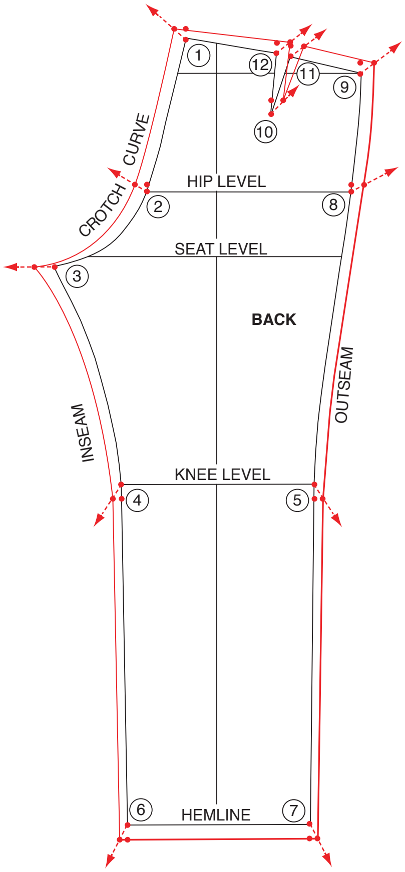
Mark (8) where the hip level meets the outseam point and measure up vertically (Y) value = 1/16in and horizontally out (X) value = 1/4in

Mark (9) where the waistline meets the outseam point and measure up vertically (Y) value = 3/16in and horizontally out (X) value = 1/4in

Mark (10) at the dart tip and measure up vertically (Y) value = 3/16in and horizontally out toward the outseam (X) value = 1/8in

Mark (11) at the top of the dart leg toward the outseam and measure up vertically (Y) value = 3/16in and horizontally out toward the outseam (X) value = 1/8in

Mark (12) at the top of the dart leg toward the center back and measure up vertically (Y) value = 3/16in and horizontally out toward the outseam (X) value = 1/8in



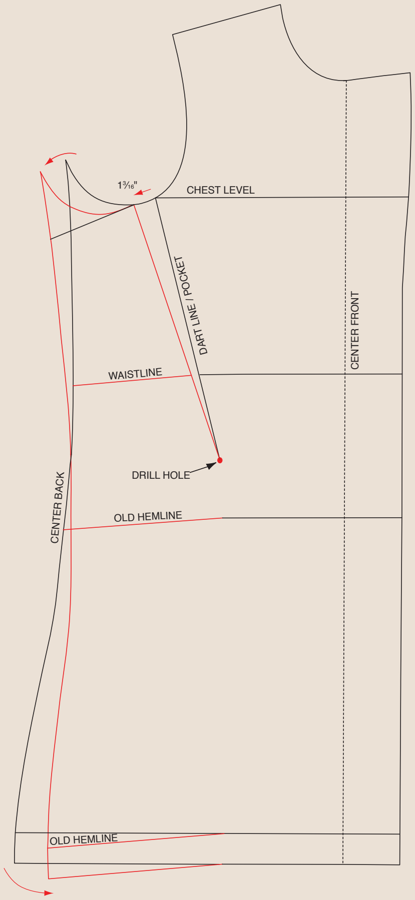
The main body growth principles

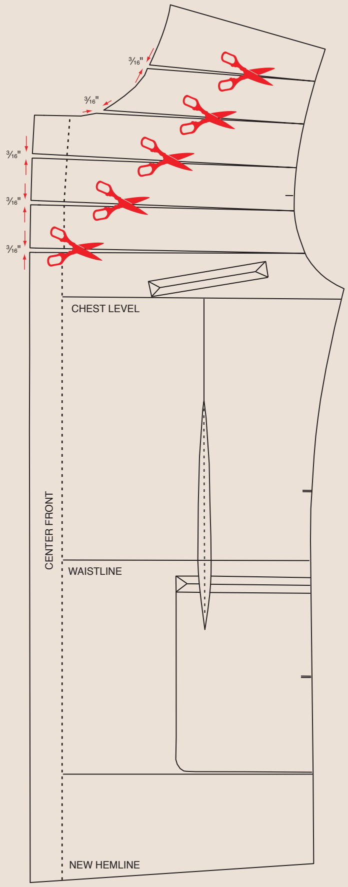
- The center front and center back seams will grow in length.
- Neck and shoulder tips will grow in length and width.
- Armholes will grow in length and width. To retain the balance of the sleeve the same value would be applied to the sleeve cap.
- Side seams will grow in width.
- Pants have to accommodate growth in length and width.

Adapting patterns and slopers

Adapting the basic sloper into different garment styles involves a range of manipulation techniques that fit the garment to the contours of the body. These include the use of darts and style lines to help remove fabric from the sloper and to fit it more closely to the body, and the use of pleats and gathers to help generate fullness over the curves of the body.

Patternmaking techniques can also be used to shape different pattern pieces and add volume.





Pivoting

Pivoting is used to redistribute volume and add in flare or a dart to a pattern piece without the need to cut through the pattern.

- Trace around the original pattern piece and then draw in the style line. Use a pattern drill to mark the end of the line.
- Pivot the pattern by placing an awl through the drill hole and then move the pattern so that the style line moves to its new position and volume is added into the pattern shape.
- Retrace the pattern with the outline of the pattern moved to its new position.

Slash and spread

Slash and spread can also be used to add or remove volume from a pattern piece.

- Trace around the original pattern piece onto a separate piece of paper. Draw style lines equidistant from each other through the area you want to expand.
- Cut through the style lines, leaving one outer edge of the pattern attached by a fraction of an inch.
- Either overlap the sections evenly along the cut style lines to remove volume, or open them up to add volume.
- Tape the slashed pattern to a new piece of paper and then retrace the new pattern shape.

PRINCIPLES OF PATTERNMAKING

GRAINLINE

Straight grain

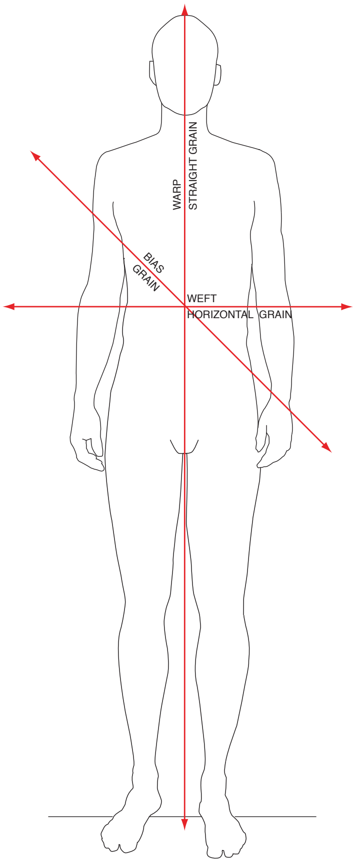
Garments are generally cut with the straight grain running down the body. The straight grain is the warp yarn, which is the yarn that runs down the length of woven fabrics parallel to the selvage. This yarn is stronger than the weft yarn, which is the yarn that is woven horizontally across the fabric. The weft, therefore, has more give or stretch. Clothes that are cut on the straight grain are more stable and hang straighter.

Bias grain

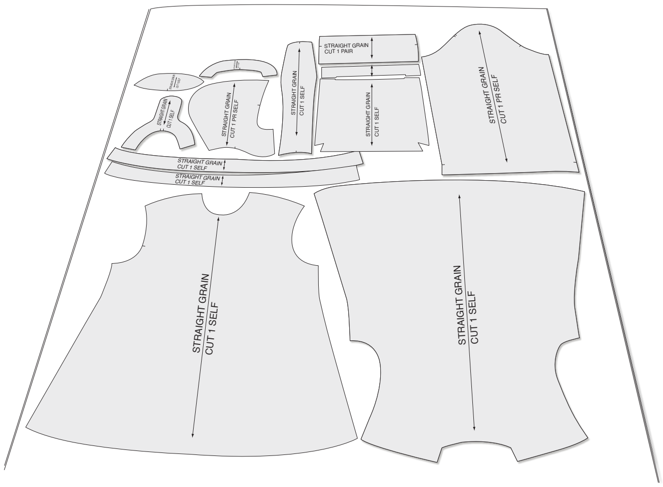
The bias runs at a 45-degree angle to the straight grain and to the selvage of the fabric. Garments that are cut on the bias will stretch and therefore mold to the contours of the body, fitting many different silhouettes.

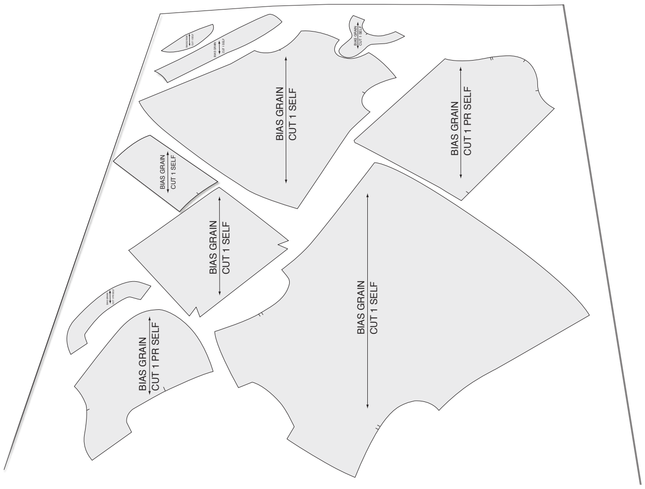
Horizontal or cross grain

The horizontal or cross grain runs across the fabric from selvage to selvage. Since this grain follows the less stable weft yarn, garments cut in this direction will tend to stretch and hang softly with pleats and tucks.


WARP
STRAIGHT GRAIN
BIAS GRAIN
WEFT
HORIZONTAL GRAIN

Right: The figure shows the directions of warp, weft, and bias grains in relation to the body.


STRAIGHT GRAIN CUT 1 PAIR
STRAIGHT GRAIN CUT 1 SELF
STRAIGHT GRAIN CUT 1 PR SELF
STRAIGHT GRAIN CUT 1 SELF
STRAIGHT GRAIN CUT 1 SELF


BIAS GRAIN CUT 1 SELF
BIAS GRAIN CUT 1 PR SELF
BIAS GRAIN CUT 1 SELF
BIAS GRAIN CUT 1 SELF
BIAS GRAIN CUT 1 PR SELF
BIAS GRAIN CUT 1 SELF

Above: Straight grain. Anorak pattern pieces are laid along the fabric parallel to the selvage, providing stability as the warp thread runs along the length of the garment.

Above: Bias grain. Anorak pattern pieces are laid along the fabric at a 45-degree angle to the selvage, giving the garment an element of stretch as warp and weft threads at this angle are more flexible as a result of gravity and hang-weight.

EASE

Ease needs to be added to the measurements taken directly from the body or from a size chart to ensure that the garment is comfortable to wear.

Ease is the measurable difference between the dimensions of the human body and the garment, a difference that allows the body to move in the garment without restraint. Adding to the measurements taken from the body—to its circumference and length—when creating the pattern, creates the space. Lack of sufficient ease will cause the garment to appear tight or wrinkled when worn.

Calculating the amount of ease
Knitted fabrics stretch and so generally require negative ease. As a result the garment is made smaller than the original measurements and uses the fabric's stretch properties to achieve its full dimensions. For most other fabrics, you will need to add ease. There are no agreed international sizing standards for the amount of ease that should be added to any particular sloper or style of garment. Calculating the amount of ease can be subjective and is reliant on fabric, body size, movement, function, and garment style (formal-wear, workwear, activewear). Analyze your competitors' garments, or even garments in your own closet, to gain an understanding of ease.

As a general rule, ease is added to outerwear to accommodate the space needed for garments worn underneath. Ease is also added to pants around the hip and crotch area so that the wearer can sit comfortably. It is also added to all garments at almost every point that the body moves: underarms, shoulders, chest, spine (at the back of the neck), hips, elbows, and knees.

Left: A student analyzing the fit of a design on a dress form.

TOLERANCE

Tolerance relates to the stability of the fabric and is measured by the amount of movement in the fabric generated through the manufacturing process. Woven fabrics generally have less movement than knitted fabrics, which have a natural stretch in their construction. The type of fiber used in a woven or knitted fabric, however, can affect the amount of tolerance—a loosely spun or natural fiber might generate greater amounts of tolerance than a more stable nonwoven or synthetic fiber. Tolerances are calculated in fractions of an inch across the width and length of the fabric. Across a whole garment they can add considerably to the amount of fabric required for a comfortable fit. Assess the properties of the fabric before calculating additional allowances required for each pattern.

Allowances for tolerance and ease are calculated together and either added or taken away. By looking at the size charts on pages 32–33 and comparing the circumferential measurements you will be able to establish the ease ratio on which to base your calculations.

Sleeve cap ease

Additionally, ease is added to the sleeve cap between the front and back notches with the greatest amount distributed over the top of the cap. This means that the sleeve cap is generally larger than the armhole into which it will be inserted; ease allows the relatively flat shape of the sleeve to sit comfortably over the rounded shape of the cap without stretching or wrinkling. Shirt sleeves generally take $\frac{1}{5}$in to $\frac{3}{4}$in of ease around the cap and jackets from $\frac{3}{4}$in to $1\frac{5}{8}$in, depending on the type of fabric.

Drafting the pattern with ease

Ease can be added either to the sloper or later to the pattern itself.

Direct drafting

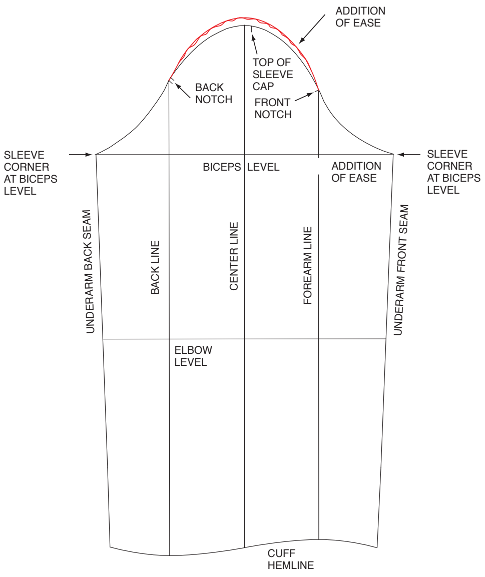
The sloper is drafted using measurements taken directly from the fit model or dress form with no ease added. These slopers will fit skintight to the body. Ease is then added during the pattern development process to create the desired silhouette. This method is generally used for bespoke tailoring, allowing greater control over the fit of the garment.

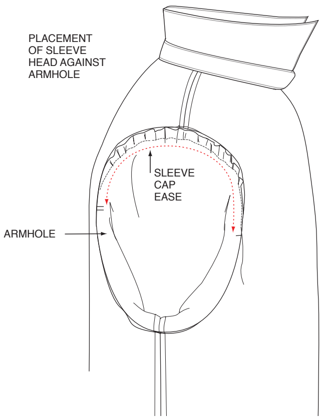
Drafting with ease

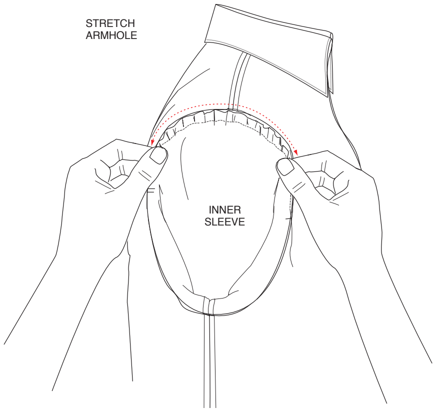
In this case the sloper is drafted to include the ease allowance, which is added to the measurements taken from the fit model, the dress form, or the commercial size chart. The sloper is, therefore, slightly larger than the human body at any give size. The pattern is then manipulated to create the given style. This method is used mainly in mass manufacture.

Ease used throughout this book

All the slopers in this book are drafted with basic ease given to the basic sloper. Ease has been added according to the style or silhouette given on each pattern. Ease has been taken away or added according to the garment design.


ADDITION OF EASE
TOP OF SLEEVE CAP
BACK NOTCH
FRONT NOTCH
SLEEVE CORNER AT BICEPS LEVEL
BICEPS LEVEL
ADDITION OF EASE
SLEEVE CORNER AT BICEPS LEVEL
UNDERARM BACK SEAM
BACK LINE
CENTER LINE
FOREARM LINE
UNDERARM FRONT SEAM
ELBOW LEVEL
CUFF HEMLINE


PLACEMENT OF SLEEVE HEAD AGAINST ARMHOLE
SLEEVE CAP EASE
ARMHOLE


STRETCH ARMHOLE
INNER SLEEVE

SEAM ALLOWANCE

Seam allowance is added to the pattern once all the development is complete. Trace off the pattern shape from the master plan or development pattern and then add the seam allowance to create the final pattern. The width of the seam allowance will vary according to the fabric, style, and construction technique. It is also important to consider the specialist machinery that will be used in construction before adding the seam allowance. Different machines have a different bite (the width between the needle and the cutting edge of an overlocker, or serger, for example) that can vary from 1⁄80 to 5⁄8in or more; the seam allowance will need to correspond to the bite. Check the lengths of the seams for corresponding pattern shapes and add alignment notches on both seams for assembly.

Seam allowances	Light- / medium-weight fabrics	Heavyweight fabrics	Sewing machinery	Seams
1⁄4in	Hems, facings, necklines, collars		Three-thread baby overlocker stitch; binding machine; single-needle lockstitch; single-needle chain stitch	Lapfelled, welted
3⁄8in	Front, side, waist, shoulder, and pocket seams that will be overlocked together	Armholes, sleeves, collars, facings, enclosed seams.	Single-needle lockstitch; single-needle chain stitch; 4 / 5 thread overlocker stitch; cover-stitch	Plain superimposed
5⁄8in	Hem allowances			Capped, slotted
3⁄4in	Hem allowances	Side, waist seams, hem allowances		
1in	Hem allowances			
2in	Double-turned or blind-hemmed seams		Blind-hemmer	

Shrinkage

Some fabrics, like denim and cotton jersey, shrink when washed. A shrink test should, therefore, be carried out on any fabric likely to shrink when the garment is first washed. Cut a square yard of the fabric and mark the grainline using permanent marker or a stitching line. The fabric should then be washed using an industrial technique, or one relevant to the final product. Remeasure the square yard: this will give you the ratio by which the square has shrunk; then apply this to the pattern or sloper. Alternatively, make up the garment in its entirety and apply the washing technique relevant to the style. Remeasure the garment and adapt the pattern to accommodate the shrinkage ratio. A further method is to manufacture the garment from preshrunk fabric.

Left: Blue jersey being removed from the dyeing tank; fabric dyed before manufacture is less likely to shrink.

FITTING

After drafting a sloper or pattern, a muslin should be made. This is a test garment, usually made from muslin, which is sewn together to check the fit. Use the muslin to check the balance of the garment, fit and also the proportion of different areas of the garment in relation to each other.

Balance

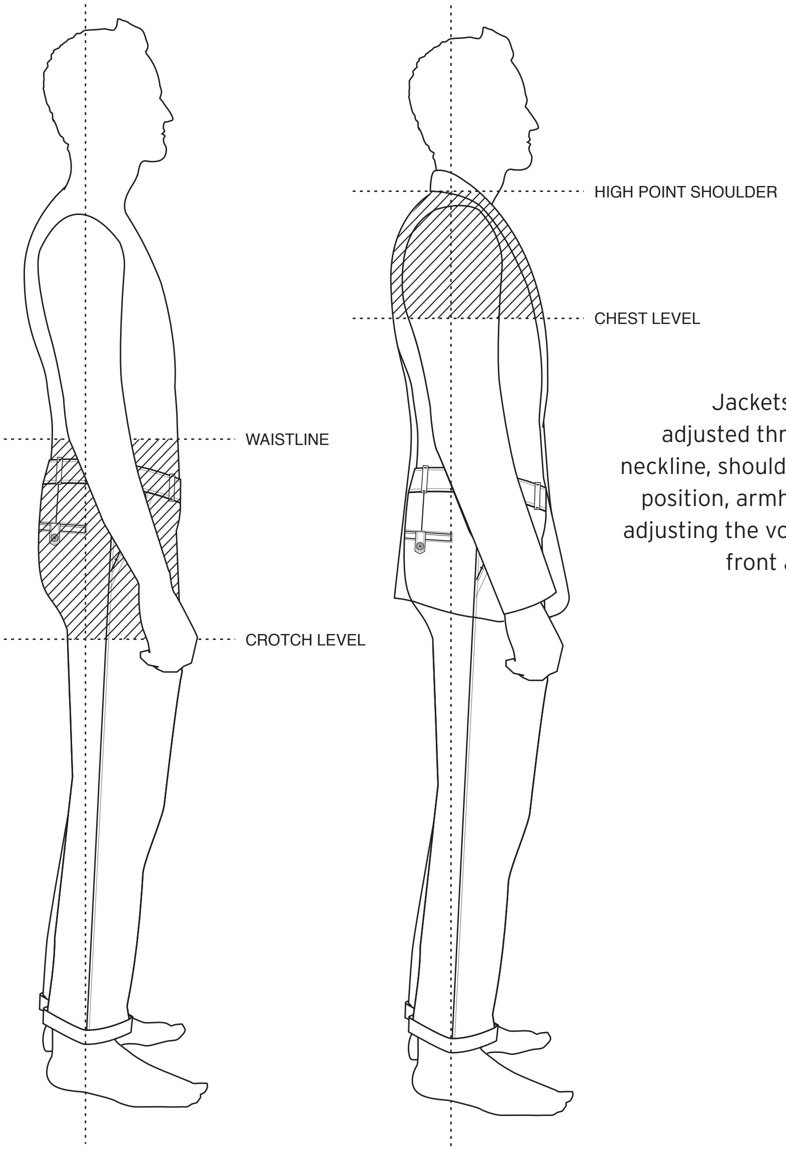
When drafting a pattern, you need to consider the relationship between the garment and the human body—the balance. Balance is achieved when the center front and center back lines on a jacket or shirt hang equally from both sides of the body and the side seams of a pair of pants are perpendicular to the ground. Symmetry can be achieved by distributing volume and ease equally between the different pieces of the pattern during the drafting of the sloper.

Balance can, however, also be achieved by ensuring that the grainline of the pattern is marked correctly (see page 57) and that it is aligned to the grainline of the fabric with the warp and weft threads aligned at 90 degrees to the chest level, waistline, and along the center front and center back lines.

Gravity, which also works in conjunction with the grainline, can also affect the balance of the garment if fabric is distributed unequally around the body. Faults in the figure and poor posture can also affect balance.

Balance control areas on the male figure

Balance of a garment can be corrected on the patterns after fitting has occurred. Illustrated here are the two areas of the garment that affect the balance.



Pants can be adjusted through the fit of the waist, hips, and front and back crotch by adjusting the volume from front to back or vice versa.

Jackets and shirts can be adjusted through the fit of the neckline, shoulder slope and seam position, armholes, and chest by adjusting the volume between the front and back patterns.

Evaluating the fit of a garment can help to rectify figure faults and problems caused by poor posture and is done through assessing the muslin. Structural seam lines should fall in the expected positions on the body. Shoulders are particularly important in fitting as the clothing hangs from them.

Any deviation created by wrong proportions will appear as wrinkles, creases, or tightness, giving the wearer visual and physical discomfort. These areas will then need to be readdressed to reinstate the balance in the pattern and another muslin will need to be made.

Line and proportion

In menswear line refers to the structural seam lines, also called style lines, that separate the component parts that make up the garment—sleeves, yokes, collar, and front and back body panels. Proportion is the space taken (in terms of length and width) by the various pattern pieces between these lines and their relationship to each other. Together they make up the garment silhouette, the overall shape that encloses the body.

When fitting the muslin you need to assess all of the above, checking to see that seams fall correctly, especially at the shoulders from which most garments hang. Any discrepancy in the balance or proportions will manifest itself as wrinkles, creases, or areas of tightness that give the wearer physical discomfort or create visual distortion. Address these discrepancies by adjusting the muslin, taking notes, and then redrafting the sloper or pattern before creating a second muslin to retest the fit.

NECK SIZES AND COLLARS

Neck sizes vary among shirt brands and styles; minor variations in the way shirts are constructed will account for slight differences in collar fit, which can be assessed through the insertion of two fingers between the neck trunk and buttoned collar to give ease. Traditional shirt sizing is classified according to neck circumferences, which are displayed as numerical figures and take into account the sleeve length for styles worn with a button collar and tie.

Casual shirt styles are classified with descriptive sizing: Extra small, Small, Medium, Large, Extra large, which are based on corresponding chest circumference measurements. Neck opening styles are constantly in flux; they can be determined according to fashion trends or garment styles, depending on what is in vogue.

Collar terminology

The collar stand is a band that raises the collar from the neckline to the point at which the collar rolls over. It can either be incorporated into the shape of the collar itself, or it can be a separate pattern; it can be either visible or hidden.

Most collars rise up from the neck edge and turn over at some point to sit on the shoulders, where they hide the neckline. The point at which they turn over is called the collar roll.

There are many variations in collar shape, both traditional and contemporary.

- A band or mandarin collar rises up from the neckline of the shirt and has a slight convex curve to the neckline and its upper edge so that it sits close to the neck. This type of collar does not have a collar roll (see Bib Shirt, pages 138–47).
- A turned-down collar is a rolled collar. It has a convex neckline and can be attached to a stand (see Casual Long-sleeved Shirt, pages 104–15).
- A convertible collar is a rolled collar. It also has a convex neckline and can be attached to a stand (see the Double-breasted Jacket, which has a shaped convertible collar with a hidden stand, pages 268–87) or can be sewn straight onto the neckline.
- Straight collars are rectangular in shape with a straight neckline and are generally sewn onto the neckline without a stand. The collar rolls naturally from the center back neck, moving in a concave line down to the center front. They are often used in activewear where the collar is a single layer and made from a manufactured preknitted rib (see Short-sleeved Polo Shirt, pages 80–87).
- A sailor collar sits flat over the shoulders and is created by aligning the front and back upper body slopers at the shoulder seam and then drafting the shape on top.

Neck Sizing Chart

USA—Sizes	**S**	**M**	**L**	**XL**	**XXL**
To fit collar (inches)	14″ - 14 1/2″	15″ - 15 1/2″	16″ - 16 1/2″	17″ - 17 1/2″	18″ - 18 1/2″

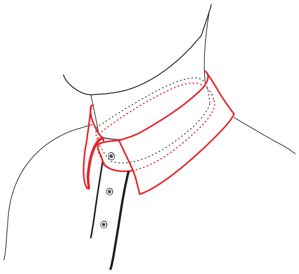
UK—Sizes	**XXS**	**XS**	**S**	**M**	**L**	**XL**	**XXL**
To fit collar (inches)	14″	14 1/2″	15″	16″	17″	17 1/2″	18″
(centimeters)	35.5cm	37cm	38cm	41cm	43cm	44cm	46cm

European—Sizes	**XS**	**S**	**M**	**L**	**XL**	
To fit collar (centimeters)	37–38cm	38–40cm	41–42cm	43–44cm	44–45cm	

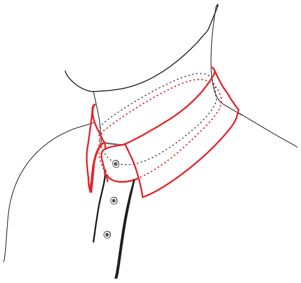
- A Peter Pan collar is generally used on womenswear but can be adapted with good results for men's clothing. It has a similar construction method to the sailor collar except that the shoulder seams are overlapped.
- A turtleneck or funnel collar is drafted from a rectangle whose sides are then shaped so that the upper edge is smaller than the neckline. It is generally used with stretch fabrics or can be cut from woven fabrics with a zippered or buttoned opening.

Necklines and collar styles

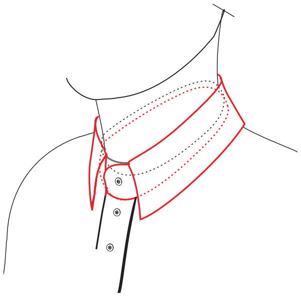
There are broadly three types of neckline that are associated with different collar styles. When developing patterns you need to consider whether to lower the center front neckline, and how much by, depending on the collar style you have chosen. In the images below the black lines represent the actual neckline, while the red lines represent the collar neckline.



- A **high neckline** is also referred to as an English neckline. Reminiscent of the neckline of the Victorian wingtip collar, this neckline sits close to the neck and is high at the center front.



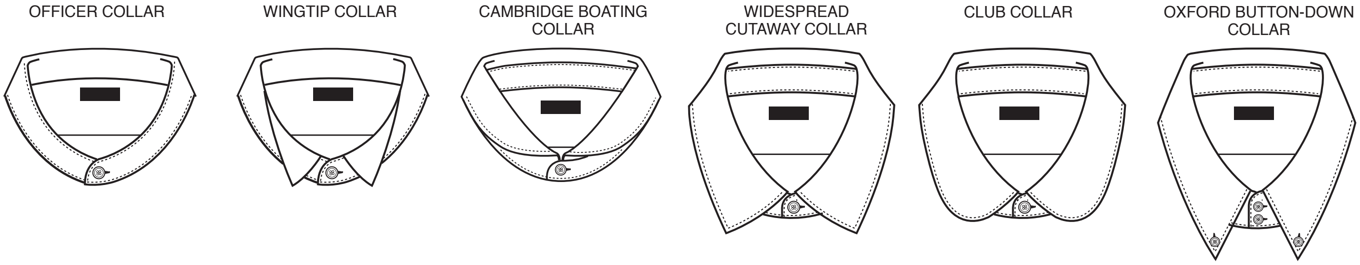
- A **mid-height neckline** is also referred to as an French-style neckline. Associated with the classic turned-down collar, this neckline sits close to the neck but is lower at the center front.



- A **low neckline** is also referred to as an Italian loose neckline. Usually associated with a cutaway or widespread collar style, this neckline sits away from the neck and is lower at the center front, offering a loose, casual style.

Right: Suit jacket with hunting details. Junya Watanabe's Fall 2011 show presents a distant yet familiar image of Americana.

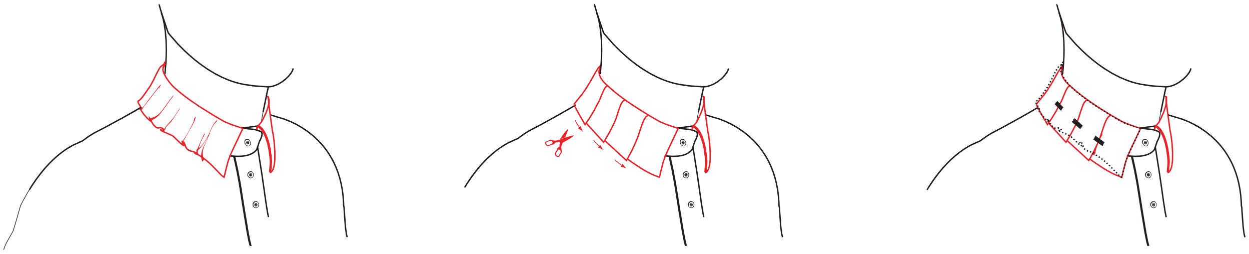
Classic collar styles with high and midstyle necklines.



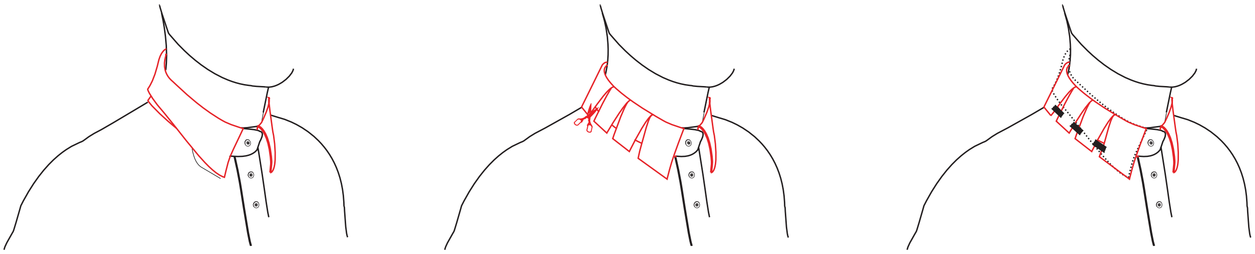
Adjusting the collar

When developing any collar that rolls over, it is important that the outer edge of the collar sits flat on the body and hides the neckline. If the outer edge of the collar is too short, it will rise up above the body when closed. If the outer edge is too long then it will bunch up and not sit flat.

The best way to evaluate how long the outer edge of the collar needs to be is to make up a muslin of the top half of the garment with the collar sewn in to assess the fit on the dress form. When deciding the width of your collar, make sure that it is not narrower than the stand. This will ensure that the stand will not be visible when the collar is turned over.

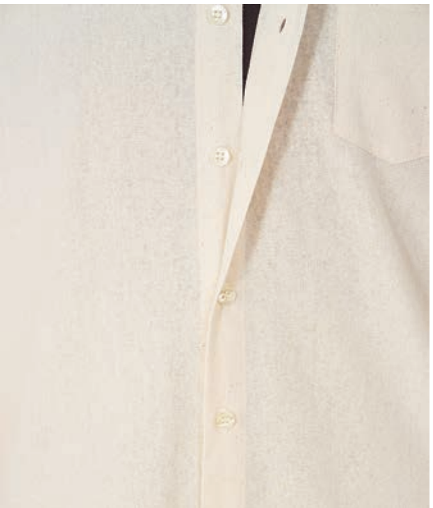


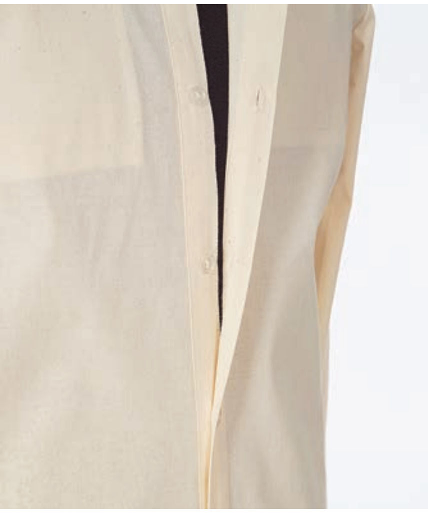
- If the outer edge is too wide, cut open the collar muslin and overlap the sections evenly until the collar sits flat.
- Record the new shape by taping the sections before removing the muslin and measuring the outer edge.

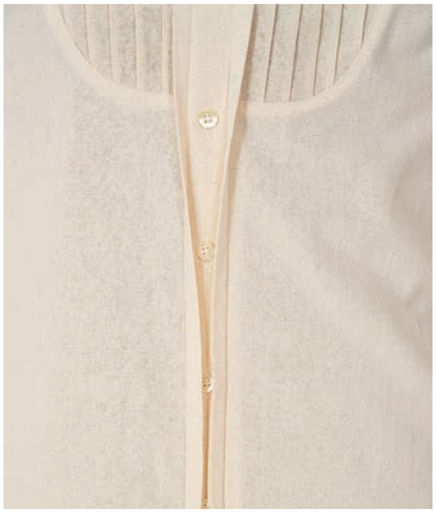


- If the outer edge is too short, cut open the collar muslin into equal sections from the outer edge toward the neckline and open them out evenly until the collar sits flat on the shoulders.
- Record the new shape by taping the sections before removing the muslin, then measure the outer edge of the collar.

PLACKETS


Grown-on placket


Sewn-on placket


Concealed placket

There are many types of placket, including concealed, wrap and strap, and decorative bias, but there are only two ways to construct a placket. You can either grow on the required material that you then fold back to form the placket or you can construct it as a separate piece of material that will be sewn onto the front opening. Both are popular methods.

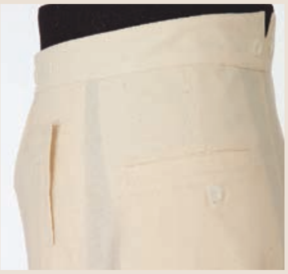
- Before you construct the placket, establish the diameter of the buttons you will be using. This will determine the finished width of the placket.
- Identify the fitting line, which is the line on which the buttons and buttonholes are placed, usually the center front.
- The placket extends beyond the fitting line by approximately half the diameter of the button, or its radius plus $^{3}/_{16}$–$^{3}/_{8}$in.
- The placket is attached to both sides of the shirt and, when fastened, the left side overlaps the right. The side underneath holds the buttons and the top holds the buttonholes.

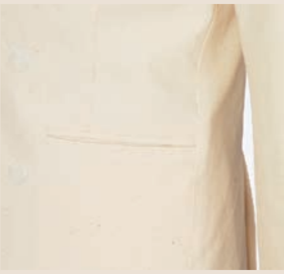
POCKETS

There are many different styles of pocket, from patch pockets, concealed pockets that can be welted or jetted, to cargo or bellows-style pockets with gussets.

When developing the internal parts of a concealed pocket, keep in mind the job a pocket performs and the wear and tear on the integral parts. The area where a pocket is attached to the main fabric is usually reinforced with fusing to stabilize the fabric and to prevent it from stretching and becoming misshapen. The width and depth of the pocket bag itself is determined by the opening you have drawn on your master plan and the internal space available to position the pocket within the design; it should be shaped so that the bag is not caught up in any seams.

Pocket terminology


A flap, or welt stand, can be used to hide the pocket opening and give a tailored finish. A welted pocket is finished on the outside with one band of fabric.


A jetted pocket has its opening hidden by two bands of fabric that are narrower than a welt.

HEMS

The hem allowance is turned up and connected to the lining during construction to create an internal facing. The hem can be fused to give rigidity.

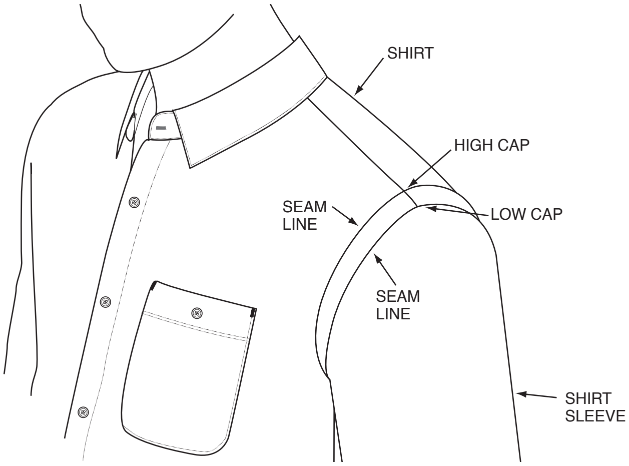
LININGS

The job of the lining is to hide the various parts of the garment's internal construction, such as seams, fusing, interlining, and pocket bags, if you have chosen not to make these a design feature.

There are many different methods for constructing internal linings for jackets and coats. The lining is larger or of a similar size to the external shell of the garment, which allows for movement of the body. The linings of jackets and coats need to have ease added across the back of the shoulderblades, for example, in the form of a center back inverted box pleat to allow for movement. Ease is frequently added to the chest front in the form of a tuck or pleat, to allow for the expansion of the chest. Lining patterns for sleeve caps and armholes are made larger to avoid pinching. Ease is also added in the form of extra length to the hems of the body and sleeve lining, to allow stretch when the body is bent over or arms raised.

SLEEVES

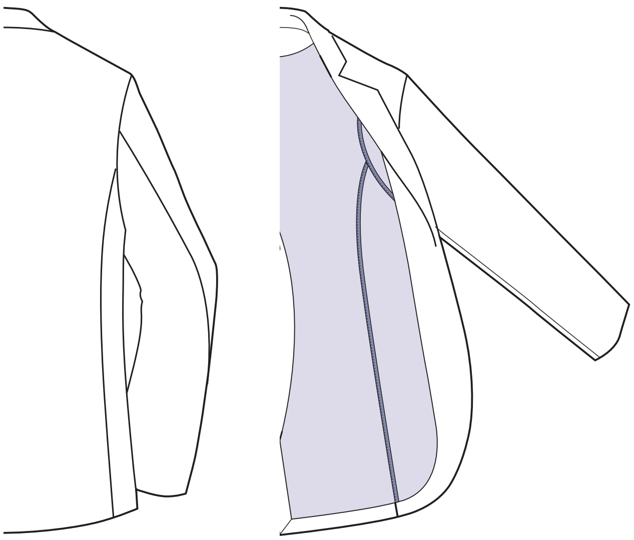
The cut of the sleeve is largely determined by the sleeve cap height (the distance between the top of the sleeve cap and the biceps level) and its relationship to the width of the underarm. A sleeve with a higher sleeve cap will be tighter and the underarm shorter. This type of sleeve is often used for fitted jackets (see Single and Double-breasted Jackets, pages 252–67 and pages 268–87). A sleeve with a shorter sleeve cap will be wider and the underarm will also be wider. This type of sleeve is used for more casual garments (see Casual Long-sleeved Shirt, pages 104–15). When lowering the top of the sleeve cap to create a more casual, wider sleeve you also need, therefore, to remember to widen the biceps level.



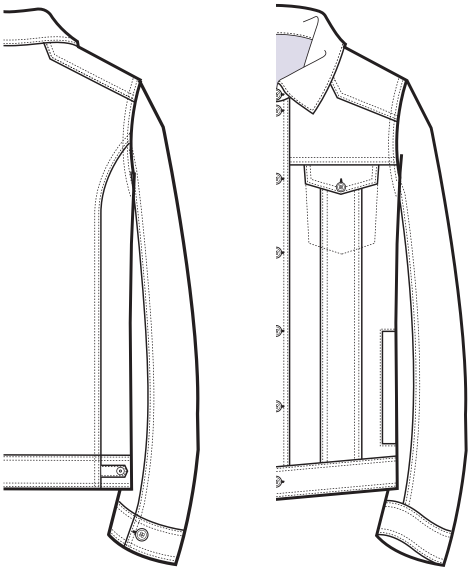
To create a more casual sleeve first create a larger armhole on the front and back upper body slopers. This can be done by either lowering the armhole (see Hooded Sweatshirt, pages 88–103) or by extending the shoulder, or both (see Casual Long-sleeved Shirt, pages 104–15).

Take the measurement of the new armhole from the front and back upper body slopers by laying a tape measure held on its side around the new shape.

Tailored two-piece



Casual two-piece



One- and two-piece sleeves
Most sleeves are constructed from one pattern piece with a single underarm seam, and called a set-in sleeve (see Casual Long-sleeved Shirt, pages 104–15). Tailored sleeves (see the Single-breasted Jacket, pages 252–67), and other casual jacket sleeves (see the Fitted Denim Jacket, pages 220–31) are made from two pieces (a top and a bottom panel).

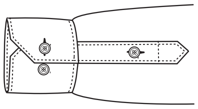
There are two methods of drafting a pattern for a two-piece sleeve that broadly divide into the method used for tailored sleeves and for casual sleeves. The casual two-piece sleeve keeps the original sleeve cap shape of the basic sloper because padding is not needed. The two panels needed for the sleeve (top and bottom) can therefore be drafted from the basic sloper. This is achieved by folding in the outer sections of the sleeve sides to give you the bottom panel. A tailored sleeve, however, has to be drafted from scratch and is developed to give you the more pronounced sleeve cap needed for the padding and rolls.

CUFFS AND CUFF GUARDS

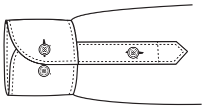
Although not illustrated here in any depth, there are many different styles of cuff, from single cuffs to more elaborate historical designs. The single cuff used on the shirts illustrated in this book holds in the volume at the end of the sleeve, has ease added so that it fits comfortably around the wrist and can rise up when the arm moves forward.

Before adding a cuff or hem allowance to any pattern, first establish your sleeve length.

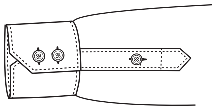
The function of the cuff guard is to finish and provide support to the opening that allows the hand to pass through the cuff. It is rectangular in shape with either a shaped or a flat end. The length of the guard can vary and it can be closed with a button midway along its length. When the guard is attached, $^3/_8$in is taken for the seam on the shirt opening.



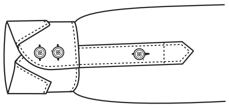
- Single-button, cut corner barrel cuff



- Single-button, rounded barrel cuff



- Two-button, cut corner barrel cuff

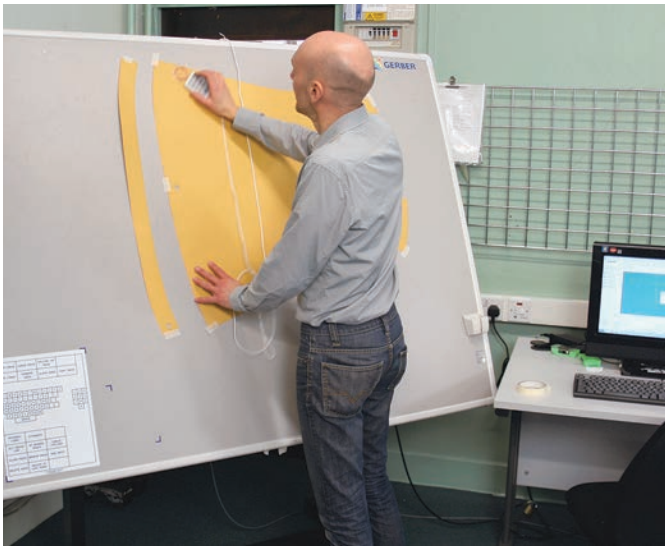


- Two-button, turned barrel cuff

USING TECHNOLOGY

CAD / CAM are acronyms for two innovations that have revolutionized the working practices of the clothing industry. Computer-aided design and computer-aided manufacture cover a number of software and hardware solutions that are used in the patternmaking and manufacturing processes. Clothing design and manufacturing technology has become increasingly reliant on computer-based operational systems to reduce expenditure and to respond to the ethical expectations of the consumer by using resources more efficiently. These systems have enabled brands to reduce lead times, to lower costs, to increase workforce efficiency, to communicate more effectively with manufacturers, and to develop Web-based profiles for customers. CAD / CAM and the Internet have revolutionized all stages of the design process. The high-quality output offered by these applications has speeded up product development and enabled brands to become more competitive. The work of an entire design studio can now be contained on a single laptop, and this has changed the way designers and patternmakers practice their craft. Style libraries, photographs and drawings, patterns, colors, and textures can be scanned, modified, and digitally enhanced to create line stories, moodboards, and lookbooks in a matter of hours. Awareness, use, and integration of the products now available is essential to any menswear brand if it wants to stay competitive in a global market.

A studio environment showing the AccuMark pattern design system on screen.



Anorak pattern parameters being digitized via the Gerber digitizer XLd workstation table.

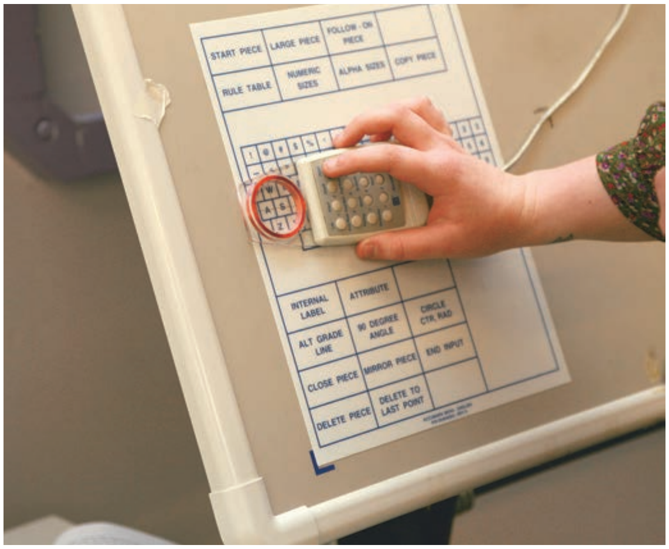
However, computer-aided technology has been developed to enhance the manual process of patternmaking, not to replace it. Without the competence and knowledge gained from the practices of flat patternmaking and draping, computerized patternmaking technology cannot be used effectively.

The advantages of using these systems are: increased speed, greater accuracy in measurement, the ability to store patterns as digital data, accurate reproduction of patterns when needed from a template library, and reduced use of space and the physical costs of paper and card. There are many CAD / CAM companies catering for small and large businesses that provide a range of solutions for the patternmaking industry. Choosing the appropriate one for your business will require some research; information can be gathered from trade shows, Web forums, and other companies' experiences of the product. Most offer schemes for ongoing technical support with training, system installation, and maintenance, as well as software upgrades. Software companies that provide patternmaking solutions to larger businesses are Gerber (US), Lectra (France), Vetigraph (France), Pad System (Canada), Grafis (Germany), OptiTex (Israel), Gemini (Romania), [TC]^2 (Textile Clothing Corp, US), and Alvanon (US). Companies catering for smaller patternmaking businesses are Telestia (Greece), Fashion Cad (Australia), Wild Ginger (US), Browzwear Solutions (Singapore), and VR Software Limited (UK).

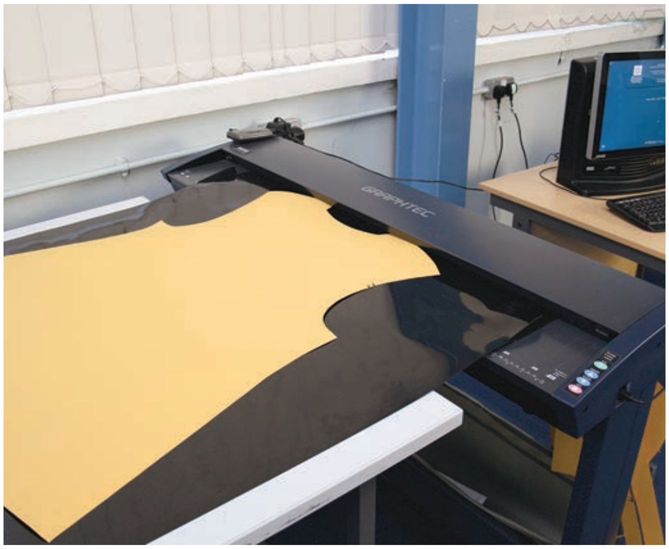
Outlined here are the basic approaches to generating patterns and the associated software and hardware products used by design and manufacturing teams throughout the apparel and educational sectors.

Digitizing and scanning patterns

Digitizing is the process whereby manual patterns are mapped or traced through the use of an electronic point locator (cursor), which is moved across a digitizing table; this data is converted into pattern parameters and stored for later use. The process described here is that for Gerber AccuMark software. To start, the pattern piece is placed on the digitizing table with the grainline horizontal to the floor; it is secured with tape. Before the digitizing process can begin certain preference tables have to be set up on the system. A storage area for the data to be saved to is created, a user environment is set up, and parameter and grade rule tables are created. Once these have been established, the process of entering the data can begin. Points on the pattern are located using the digitizing cursor crosshairs and information is input by pushing the relevant keys on the cursor pad. Digitizing starts by entering in the piece name, piece category, and the piece description, then the rule table is selected from the alphabetical list on the table menu.

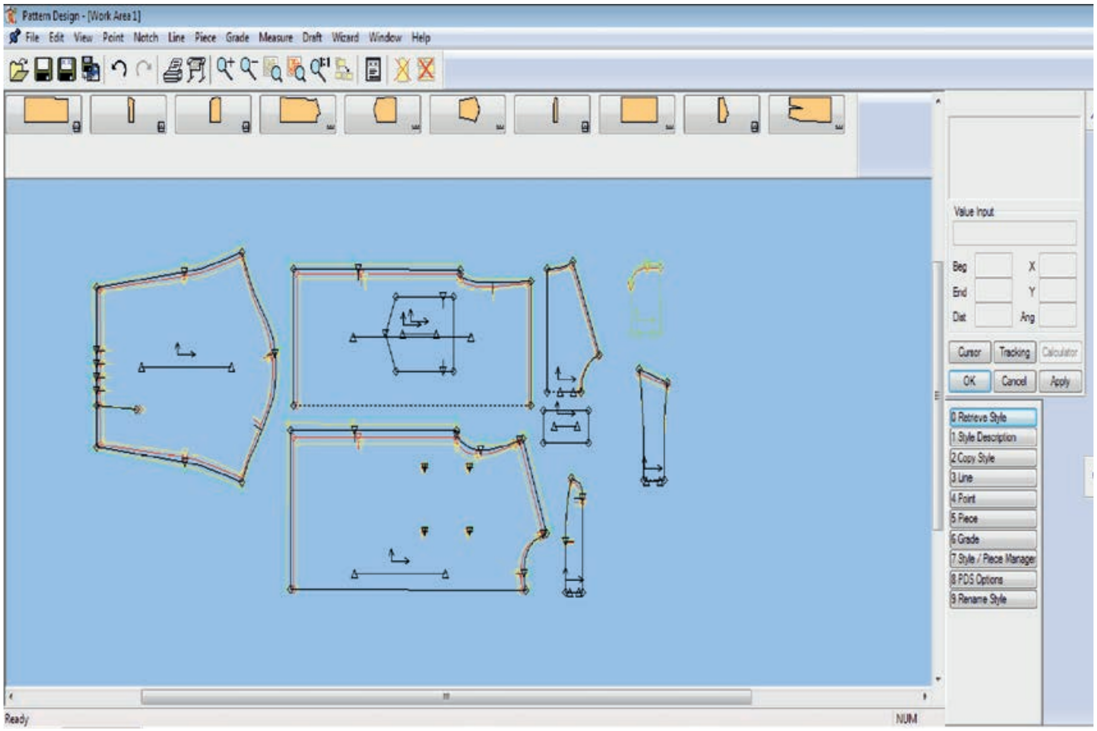


Piece name being entered on the menu board of the digitizing table using the 16-button cursor.



Pattern being fed through a Graphtec image scanner, which converts full-size patterns into CAD data.

Next the grainline is recorded and the process starts at the top left-hand corner on a cardinal point (shoulder tip), working clockwise, selecting the inputting code from the key pad: (AB1)—for a graded point followed by a rule number, (A)—for intermediate curves, (AB1C1)—for a graded point, rule number, and notch. The digitizing scanner is another method of inputting patterns into the system; patterns are passed between plastic sheets which are fed though the scanner, so it is faster than the manual process. It takes a matter of minutes for the scan to be processed into parameter data, which can be converted for checking and manipulation compatibility with Gerber AccuMark.



Screen shot of Gerber's AccuMark Pattern Design System (PDS) software. A shirt pattern is shown in the work area.

Generating patterns

Patterns can also be created directly on the computer: Basic slopers can be created using your landmark parameters (chest, waist, hips, and body lengths) from the size charts provided. Gerber AccuMark PDS (Pattern Design System) allows you to generate new patterns or to open digitized or scanned patterns from your storage area. Menu slopers can be manipulated to add fullness, or can be stretched or shrunk for fabric tolerance; they can be scaled to change size ratios, copied to make common pieces, or even mirrored to create full patterns. Seams, notches, and annotations can also be applied to your pattern pieces.

Digitally grading patterns

The principles of grading are the same for manually grading a pattern and grading a pattern on the computer. As grading by hand can be a time-consuming process, computer grading is now the process of choice for the apparel industry. With the added benefit of accuracy, patterns can be graded automatically. Like the manual method, the (X) and (Y) coordinates have to be assigned a measurement value. This is done through establishing a rule table to define the movement of the cardinal points of your pattern (horizontal and vertical axes). You will need to establish your incremental body growth between sizes before completing the rule table. This information can be taken from an industry-published size chart or from your own customer profiling.

Lay planning and marker making

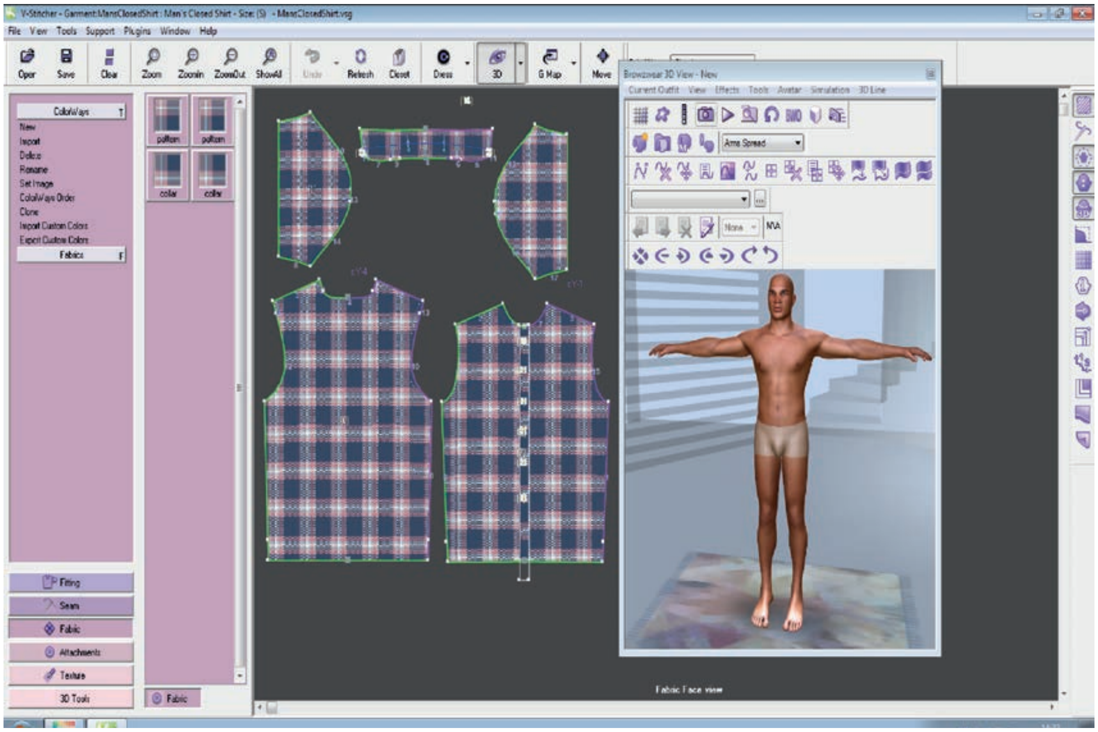
These two technical terms refer to parts of the production process. The lay plan is the mapping out of pattern pieces in sequential order on a piece of paper (the marker). The marker is the width and length of the fabric lay. This will be determined by the number of garments to be cut and the sizes ordered. Although manual marker making is still practiced, generating markers on the computer offers considerable benefits. Material utilization and fabric wastage can be controlled by optimizing small and large sizes. Gerber AccuNest software offers an automated function where the fabric parameters and quantity are set, and then pattern pieces are selected to generate the most economical marker plan.

Digital output

Many CAD programs for patternmaking are now compatible with other design software, enabling pattern data to be exported and e-mailed around the world. Factories have the hardware to be able to print out patterns to make samples, and to make lay plans or markers in paper or card ready to be processed by single- or multiple-vector cutting systems. The 3-D Runway Creator program allows pattern data to be turned into virtual garments on avatars so that manufacturers, retailers, and buyers are able to view products while they are in the development stage. Changes to style, color, and fit can be reviewed even before samples are made.

Emerging technologies

At the forefront of apparel engineering is the advancement in digital technology and virtual software solutions for pattern generation. As the emerging market seeks to refine its production and output processes, computer-generated solutions will increasingly play a pivotal role in how the designer, patternmaker, manufacturer, and consumers interact. New software programs allow design teams and patternmakers to view manual processes yet to be actualized. Many leading apparel companies have been developing interactive pattern design systems (PDS) that feature 3-D flattening technology, a solution to flat patternmaking and virtual three-dimensional prototyping. Basic pattern slopers can be rendered into full body


V-Stitcher - Garment:MansClosedShirt : Man's Closed Shirt - Size: (S) - MansClosedShirt.vsg
File View Tools Support Plugins Window Help
Open
Save
Clear
Zoom
ZoomIn
ZoomOut
ShowAll
Undo
Refresh
Closet
Dress
3D
G Map
Move
Browzwear 3D View - New
Current Outfit View Effects Tools Avatar Simulation 3D Line
Arms Spread
None
N/A
ColorWays
New
Import
Delete
Rename
Set Image
ColorWays Order
Clone
Import Custom Colors
Export Custom Colors
Fabrics
pattern
pattern
collar
collar
Fitting
Seam
Fabric
Attachments
Texture
3D Tools
Fabric
Fabric Face view

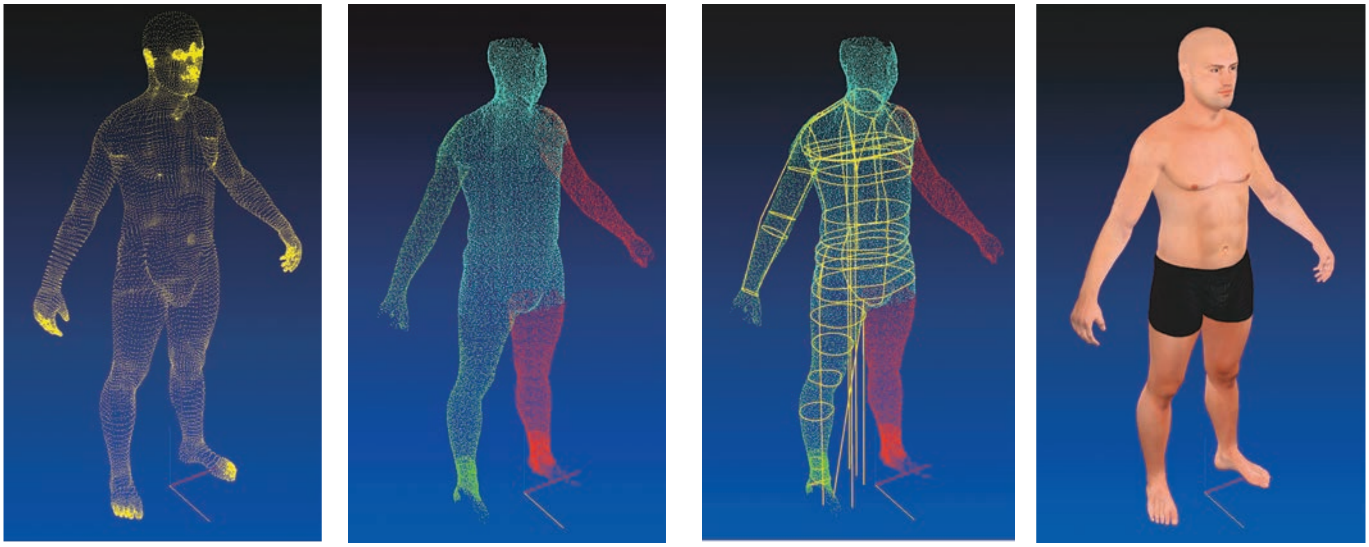
Screenshot of Browzwear's V-Stitcher 2-D to 3-D garment modeling software. A shirt pattern with virtual avatar is shown in the work area.

samples which are then fitted onto a library of customizable, computer-generated avatars, or 3-D styles which can be rendered into 2-D patterns. Fit, proportion, ease, tightness, and other vital technical aspects of a garment can be modified. Simulated fabric and print design can be applied prior to production, reducing the need for multiple samples. Many of the Pattern Design Systems work on collaborative platforms specifically developed for the fashion industry, allowing pattern data to be easily incorporated into design or other product management programs.

Body scanning

This new technology has changed how the apparel industry develops its size charts; research into fit and shape analysis among brand demographics has reduced the need to have multiple sizing by targeting specific body shapes. Brands and patternmakers now have access to regional size surveying data for almost any target market or country's consumers. Many companies now offer a range of services from fit analysis, customer profiling, demographic body surveys to basic pattern sloper creation based on market research. Through this new technology patternmakers are able to influence brand positioning and capture new audiences via target sizing. Body scanning has contributed to garment creation analysis in almost every studio practice. The production of tailor-made forms with core realistic body shapes developed from sizing data also allows for greatly improved customer fit.

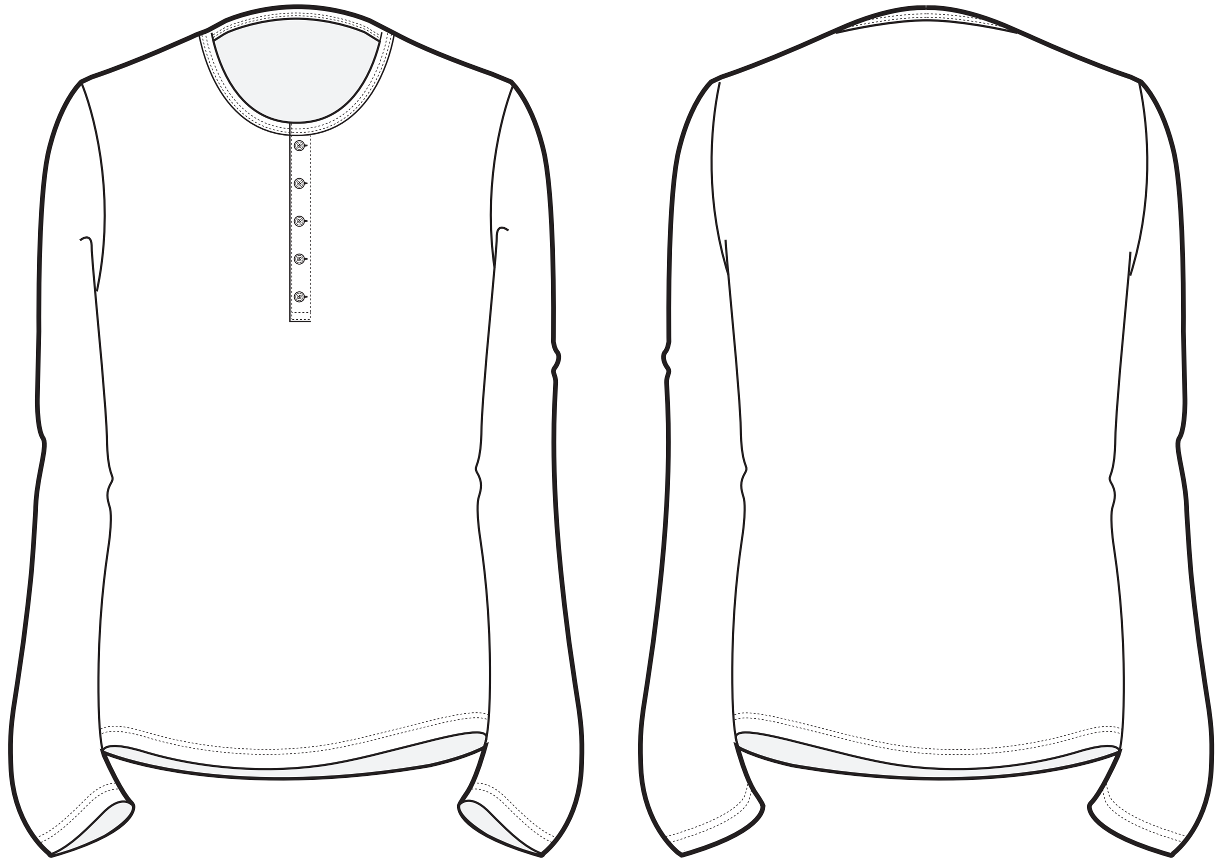
Screenshots of [TC]²'s (Textile Clothing Corp) 3-D body scanning program. Measurements are extracted to generate 3-D avatars and body mapping diagrams.



CHAPTER THREE

THE PATTERNS: SHIRTS

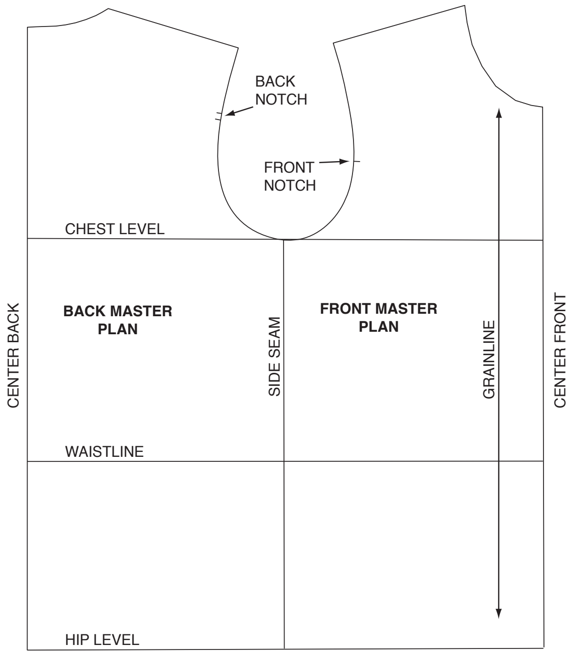
PATTERN
LONG-SLEEVED COLLARLESS SHIRT



This pattern includes development of the following features:
Shaping the body
Lowering the neckline
Creating a front placket
Shaping the hemline
Shortening the sleeve cap height
Shaping the sleeve

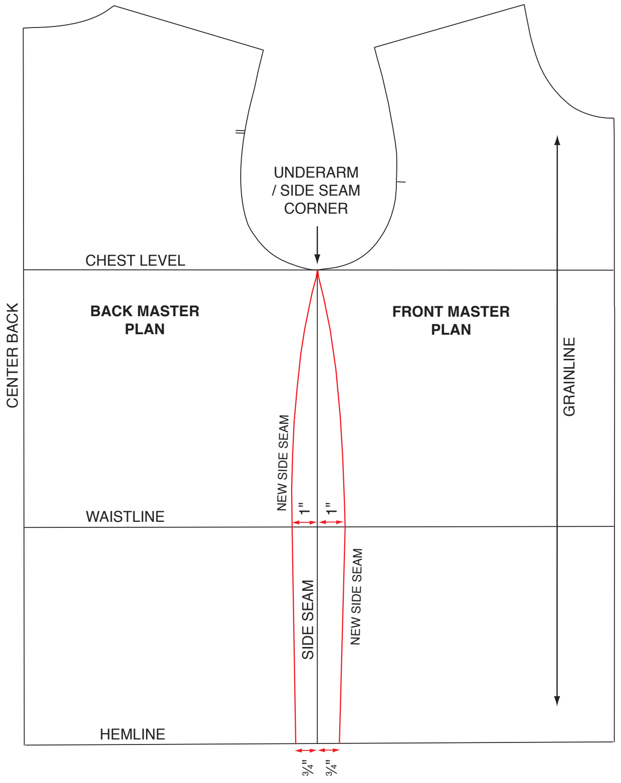
STEP 1
DEVELOPING THE MASTER PLAN

Start by selecting the basic men's upper body sloper, or by drafting the basic sloper according to the instructions on page 40. Cut a large piece of drafting paper slightly longer than the length of the vest you want to develop and transfer the shape of the sloper and all marks, labels, and instructions following the directions on page 48.


BACK NOTCH
FRONT NOTCH
CHEST LEVEL
CENTER BACK
BACK MASTER PLAN
SIDE SEAM
FRONT MASTER PLAN
GRAINLINE
CENTER FRONT
WAISTLINE
HIP LEVEL

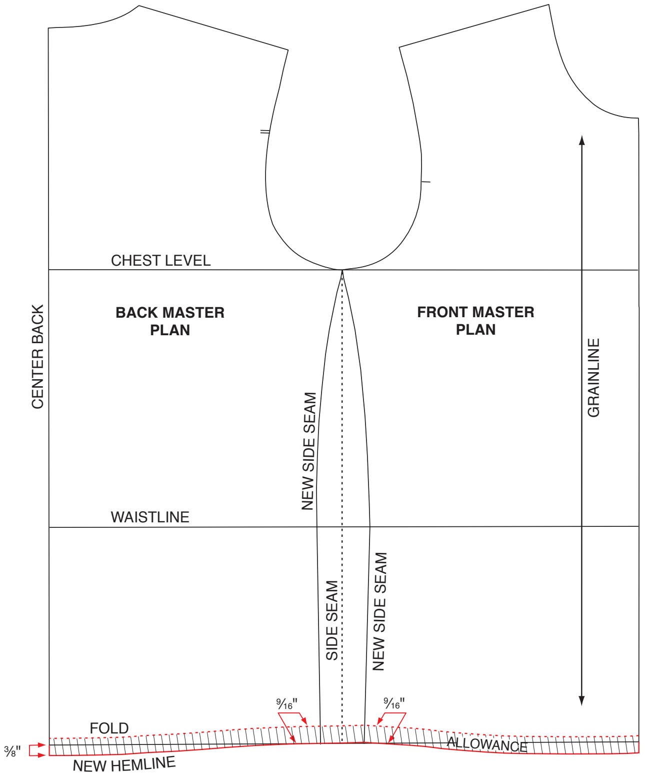
STEP 2
SHAPING THE BODY

- From the side seam at the waistline measure out 1in on both sides and mark. From the hemline at the side seam measure out ¾in on both sides and mark.
- Connect these points with a straight line from the hemline to the waistline, then continue with a curved line to the underarm / side seam corner.


UNDERARM / SIDE SEAM CORNER
CHEST LEVEL
BACK MASTER PLAN
FRONT MASTER PLAN
CENTER BACK
GRAINLINE
CENTER FRONT
NEW SIDE SEAM
1"
1"
WAISTLINE
SIDE SEAM
NEW SIDE SEAM
HEMLINE
¾"
¾"

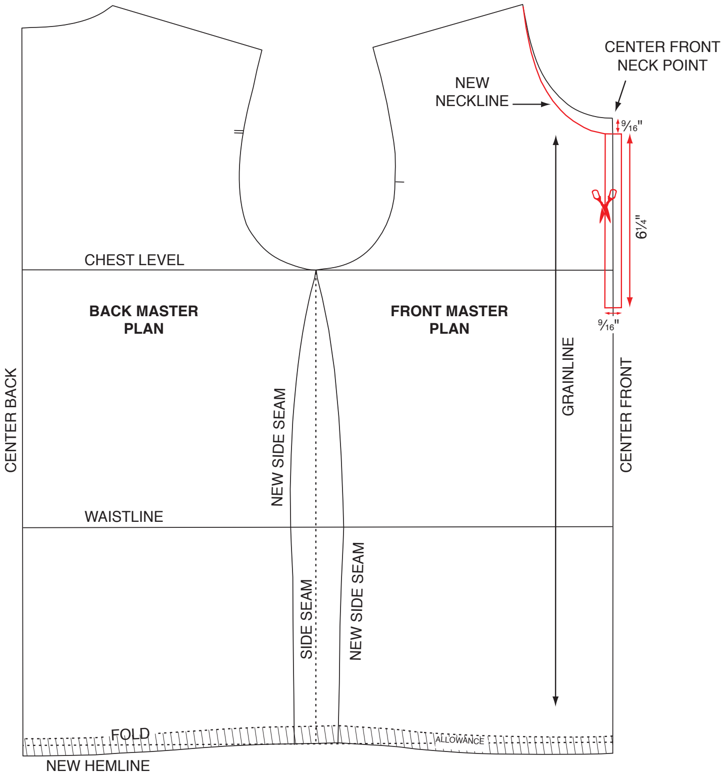
STEP 3
SHAPING THE HEMLINE

- Extend the center front and back lines down ⅜in at the hem and mark.
- Connect both of these points back to the bottom of the side seam with a shallow curve.
- Measure up 9⁄16in along this line to indicate the hem allowance and mark with a dotted fold line.


CHEST LEVEL
BACK MASTER PLAN
FRONT MASTER PLAN
CENTER BACK
GRAINLINE
CENTER FRONT
NEW SIDE SEAM
WAISTLINE
SIDE SEAM
NEW SIDE SEAM
9⁄16"
9⁄16"
FOLD
ALLOWANCE
⅜"
NEW HEMLINE

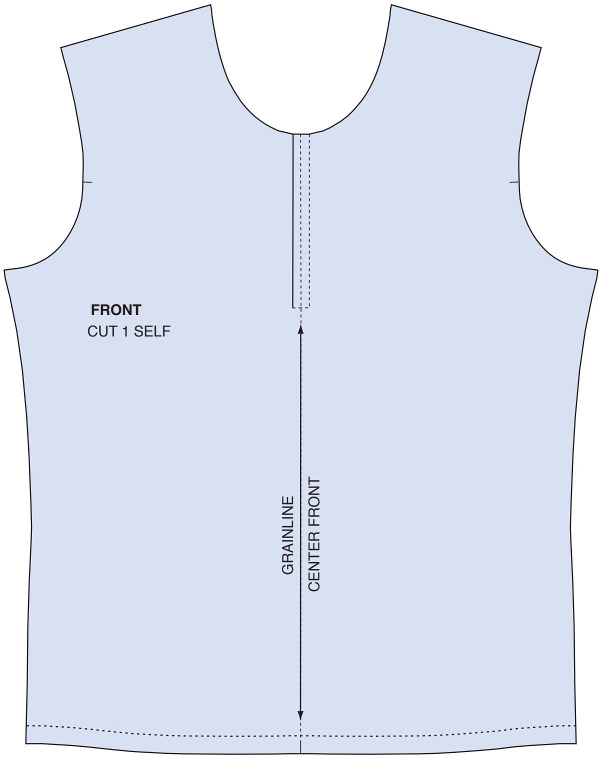
STEP 4
LOWERING THE FRONT NECK AND PLACKET DEVELOPMENT

- Measure down 9⁄16in from the center front neck point. Using the basic upper body sloper as a guide to the shape, draw in the new neckline.
- Continue to measure down a further 6¼in—the length of the placket. From the new center front neck point, measure back along the neckline 5⁄16in and then out 5⁄16in.
- At both these points, drawn a vertical line down to create a rectangular shape the length of the placket and 9⁄16in wide.


CENTER FRONT
NECK POINT
NEW
NECKLINE
9⁄16"
6¼"
9⁄16"
CHEST LEVEL
BACK MASTER
PLAN
FRONT MASTER
PLAN
CENTER BACK
NEW SIDE SEAM
GRAINLINE
CENTER FRONT
WAISTLINE
SIDE SEAM
NEW SIDE SEAM
FOLD
ALLOWANCE
NEW HEMLINE

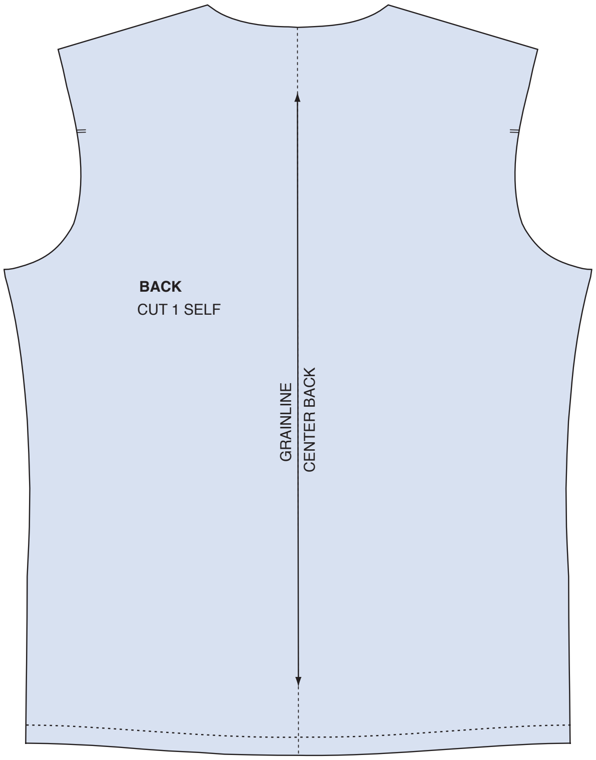
STEP 5
FRONT PATTERN

- Trace off the front onto a new piece of paper and, following the instructions on page 50, create the full pattern shape, which will be cut down the right-hand side of the placket to create an opening.


FRONT
CUT 1 SELF
GRAINLINE
CENTER FRONT

STEP 6
BACK PATTERN

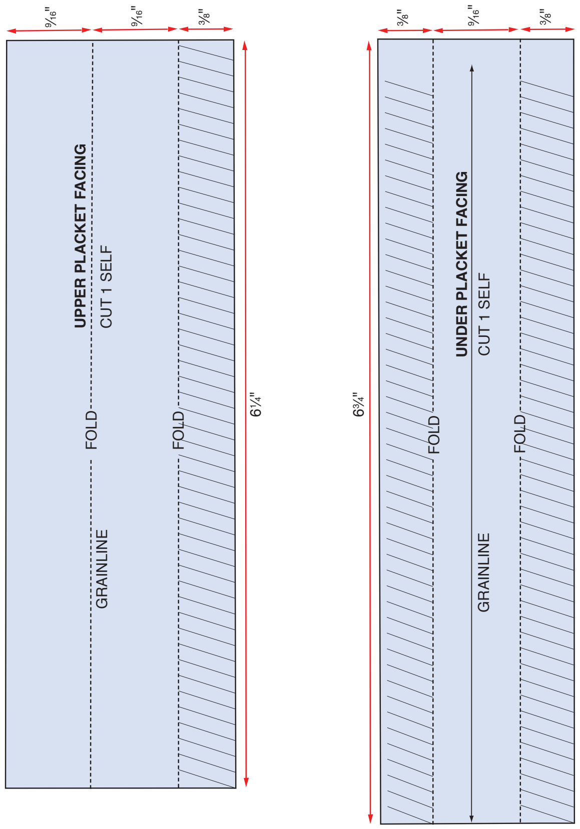
- Trace off the back onto a new piece of paper and, following the instructions on page 50, create the full pattern shape.


BACK
CUT 1 SELF
GRAINLINE
CENTER BACK

STEP 7

DEVELOPING THE UPPER AND UNDER PLACKET FACINGS

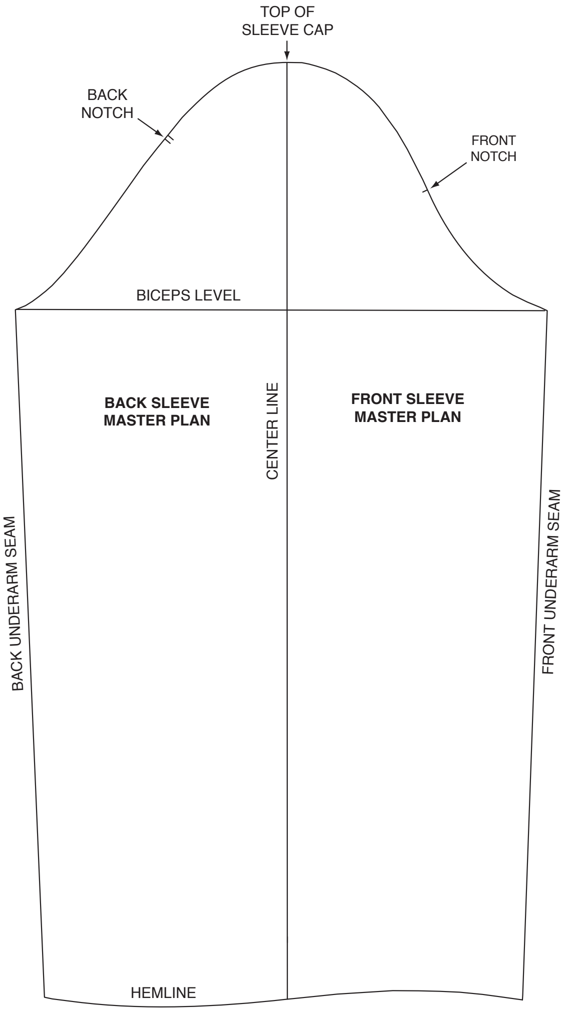
- Draw a rectangle 6¼in long and 1⅝in wide.
- Indicate the ⅜in seam allowance on one long side and divide the rest of the width in half to give a 9⁄16in facing when folded. This will form the upper placket facing.
- Draw another rectangle 6¾in long and 1⅜in wide.
- Indicate the ⅜in seam allowance on the two long sides, leaving a 9⁄16in facing. This will then form the under placket facing.


9⁄16"
9⁄16"
⅜"
UPPER PLACKET FACING
CUT 1 SELF
FOLD
FOLD
GRAINLINE
6¼"
⅜"
9⁄16"
⅜"
6¾"
UNDER PLACKET FACING
CUT 1 SELF
FOLD
FOLD
GRAINLINE

STEP 8

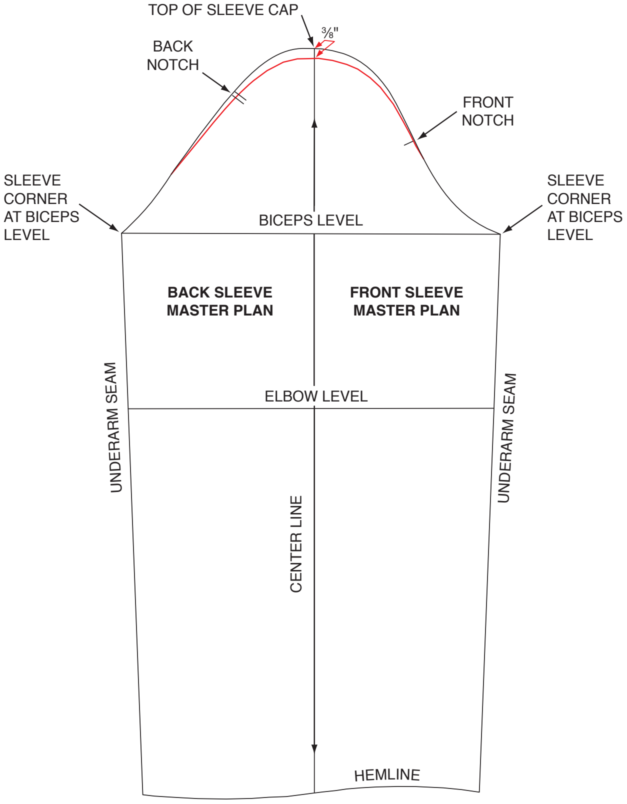
DEVELOPING THE SLEEVE MASTER PLAN

Start this development by selecting the basic men's sleeve sloper, or by drafting the basic sleeve sloper according to the instructions on page 42. Cut a large piece of drafting paper slightly longer than the length of the shirt you want to develop and transfer the shape of the sloper and all marks, labels, and instructions, following the directions on page 48. The sleeve sloper that you have selected might be longer or shorter than the design you are developing. Analyze by taking a measurement from your fit model or dress form and by consulting your size chart, or even by using competitors' garments for comparison.


TOP OF SLEEVE CAP
BACK NOTCH
FRONT NOTCH
BICEPS LEVEL
BACK SLEEVE MASTER PLAN
CENTER LINE
FRONT SLEEVE MASTER PLAN
BACK UNDERARM SEAM
FRONT UNDERARM SEAM
HEMLINE

STEP 9
REDUCING THE SLEEVE CAP HEIGHT

- Reduce the sleeve cap by measuring 3/8in down the center line from the top of the sleeve cap.
- Using the basic sleeve sloper as a guide, draw in the new sleeve cap shape.

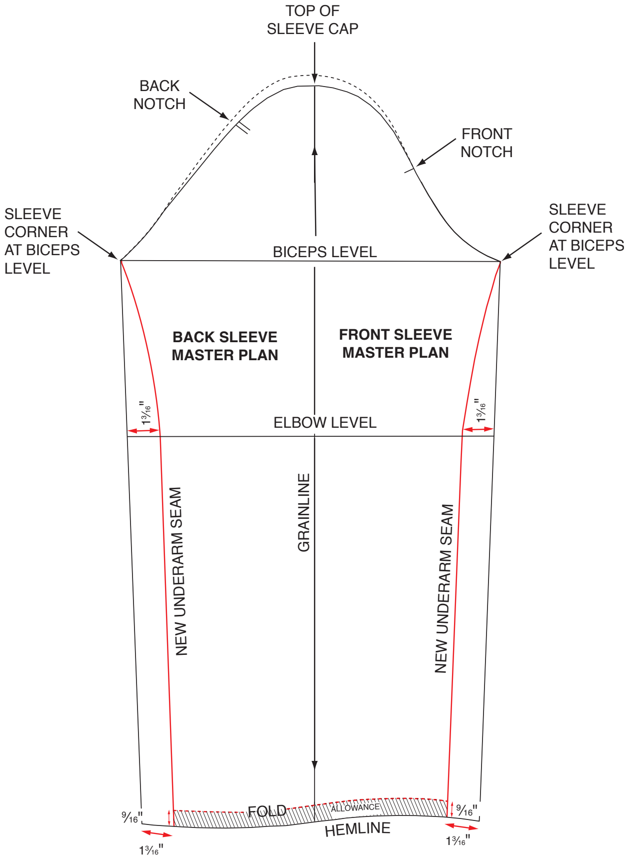

TOP OF SLEEVE CAP
3/8"
BACK NOTCH
FRONT NOTCH
SLEEVE CORNER AT BICEPS LEVEL
SLEEVE CORNER AT BICEPS LEVEL
BICEPS LEVEL
BACK SLEEVE MASTER PLAN
FRONT SLEEVE MASTER PLAN
UNDERARM SEAM
UNDERARM SEAM
ELBOW LEVEL
CENTER LINE
HEMLINE

Ease for knitted and stretch fabrics

Knitted and stretch materials, such as jersey, fleece, and spandex, need very little or no ease allowance on the sleeve cap because the ease is found in the stretch of the fabric itself. You will therefore need to reduce the sleeve cap on some patterns.

STEP 10
SLEEVE SHAPING

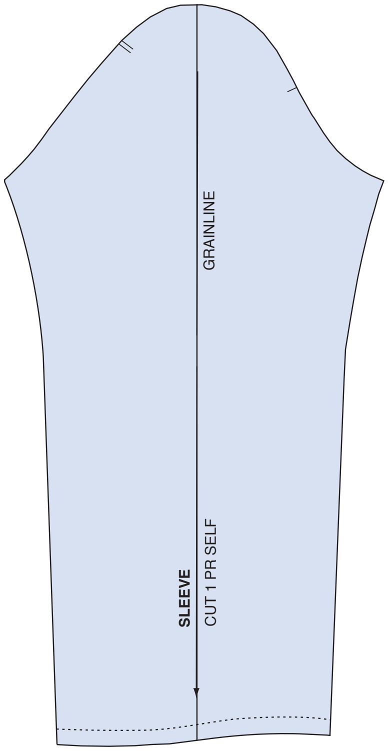
- First measure 1 3/16in in at the sleeve hemline from both sides and mark. Repeat at the elbow level and mark.
- From the corner of the sleeve at biceps level on both sides, join these new points with a curved line to the elbow level and a straight line to the hemline. These are the new underarm seams.
- At the sleeve hemline measure up 9/16in to indicate the sleeve hem allowance and mark with a dotted fold line.


TOP OF SLEEVE CAP
BACK NOTCH
FRONT NOTCH
SLEEVE CORNER AT BICEPS LEVEL
SLEEVE CORNER AT BICEPS LEVEL
BICEPS LEVEL
BACK SLEEVE MASTER PLAN
FRONT SLEEVE MASTER PLAN
1 3/16"
1 3/16"
ELBOW LEVEL
NEW UNDERARM SEAM
GRAINLINE
NEW UNDERARM SEAM
9/16"
FOLD
ALLOWANCE
9/16"
HEMLINE
1 3/16"
1 3/16"

STEP 11

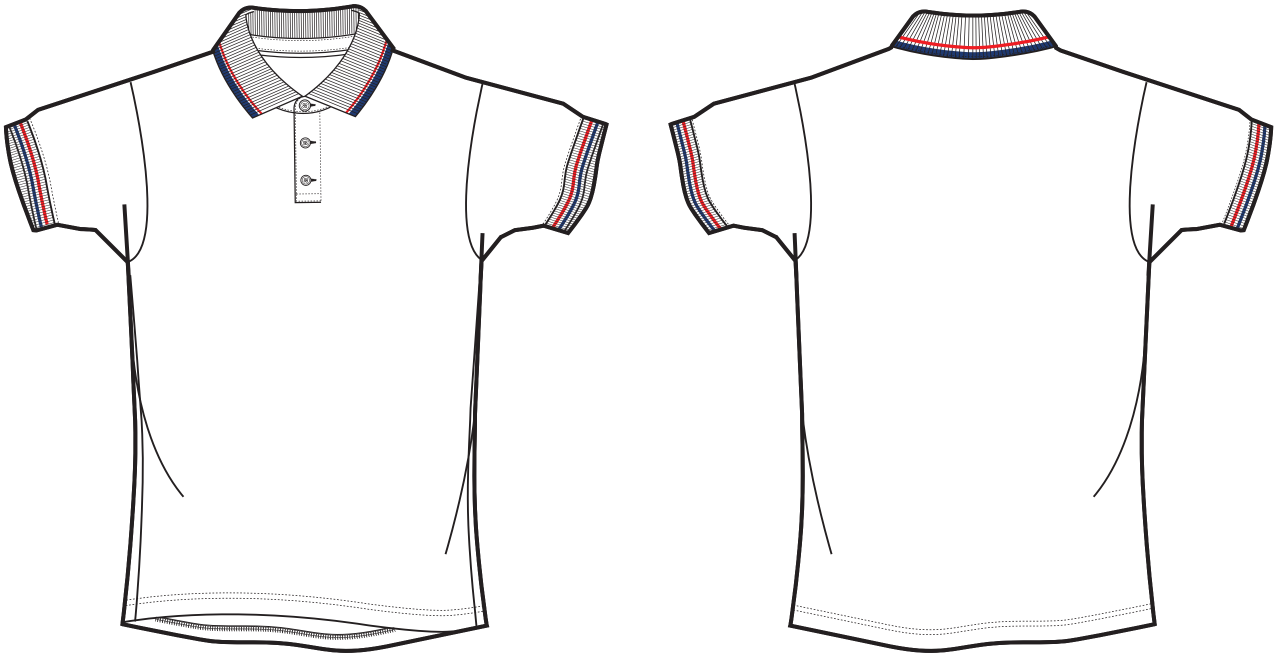
SLEEVE PATTERN

Following the instructions on page 50, trace off the sleeve pattern.


GRAINLINE
SLEEVE
CUT 1 PR SELF

PATTERN

SHORT-SLEEVED POLO SHIRT

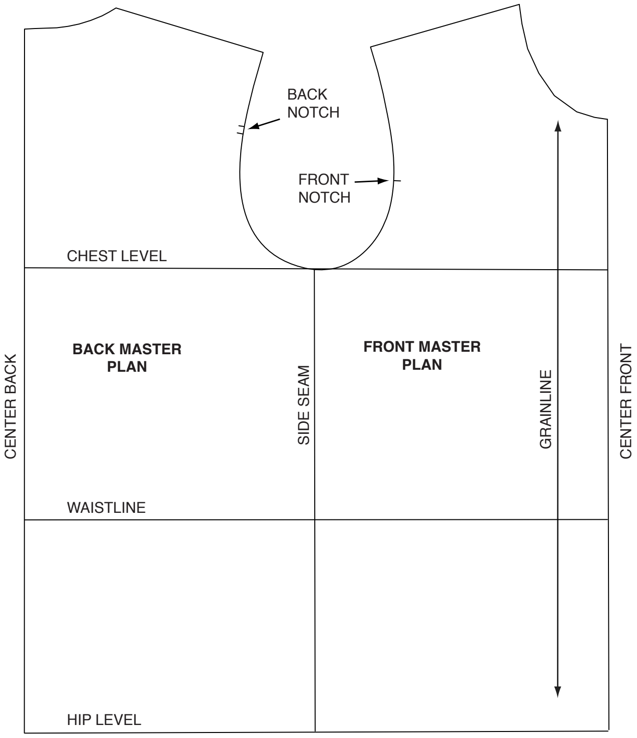


This pattern includes development of the following features:
Creating a front placket
Creating a collar stand
Lowering the armhole
Widening the sleeve cap
Developing a short sleeve
Incorporating a ribbed collar and cuff

STEP 1

DEVELOPING THE MASTER PLAN

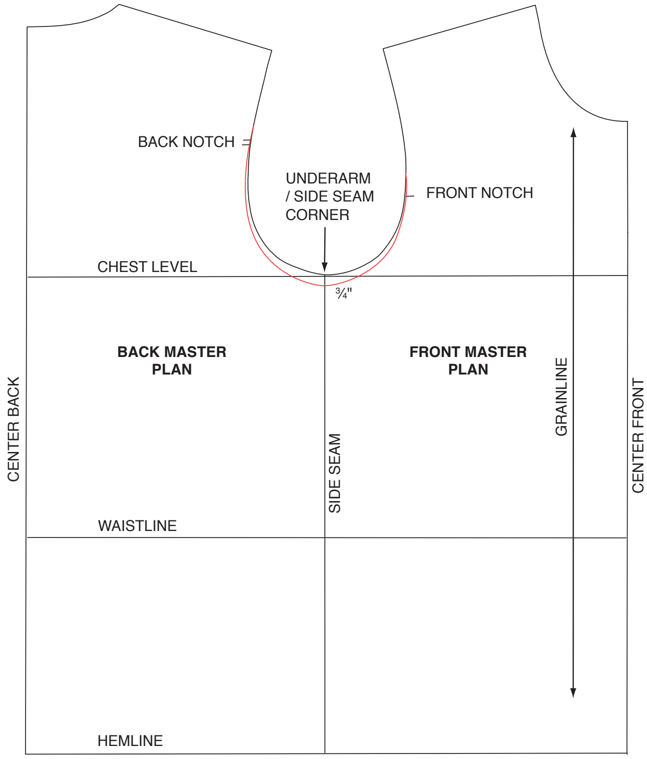
Start by selecting the basic men's upper body sloper, or by drafting the basic sloper according to the instructions on page 40. Cut a large piece of drafting paper slightly longer than the length of the shirt you want to develop and transfer the shape of the sloper and all marks, labels, and instructions following the directions on page 48.


BACK NOTCH
FRONT NOTCH
CHEST LEVEL
BACK MASTER PLAN
FRONT MASTER PLAN
CENTER BACK
SIDE SEAM
GRAINLINE
CENTER FRONT
WAISTLINE
HIP LEVEL

STEP 2

LOWERING THE ARMHOLE ON THE BODY

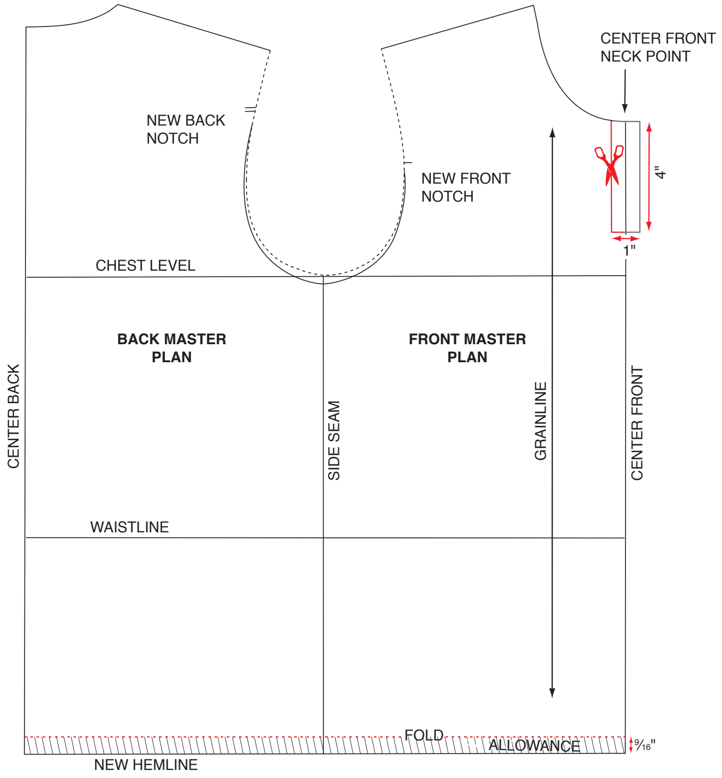
- Measure ¾in down the side seam from the underarm / side seam corner and mark. Using the original sloper, recreate the shape of the armhole and transfer the back and front notches to their new positions on the lowered armhole.


BACK NOTCH
UNDERARM / SIDE SEAM CORNER
FRONT NOTCH
CHEST LEVEL
¾"
BACK MASTER PLAN
FRONT MASTER PLAN
GRAINLINE
CENTER BACK
SIDE SEAM
CENTER FRONT
WAISTLINE
HEMLINE

STEP 3

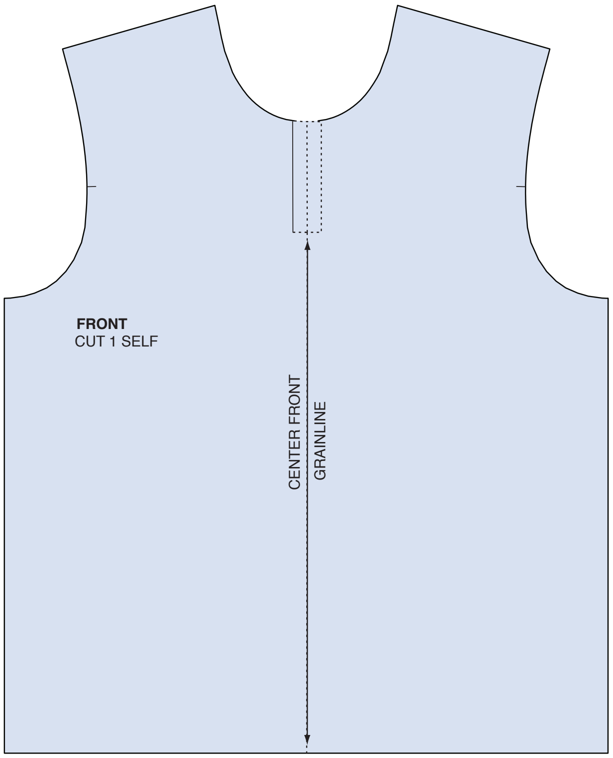
DEVELOPING THE CENTER FRONT PLACKET AND HEM WIDTH

- From the center front neck point measure down 4in—the length of the placket.
- From the center front neck point measure ½in back along the neckline and then out ½in.
- At both of these points draw a vertical line down to create a rectangular shape the length of the placket and 1in wide.
- At the bottom of the pattern measure up 9⁄16in from the hemline and draw in the hem allowance.


CENTER FRONT NECK POINT
NEW BACK NOTCH
NEW FRONT NOTCH
4"
1"
CHEST LEVEL
BACK MASTER PLAN
FRONT MASTER PLAN
CENTER BACK
SIDE SEAM
GRAINLINE
CENTER FRONT
WAISTLINE
FOLD
ALLOWANCE
9⁄16"
NEW HEMLINE

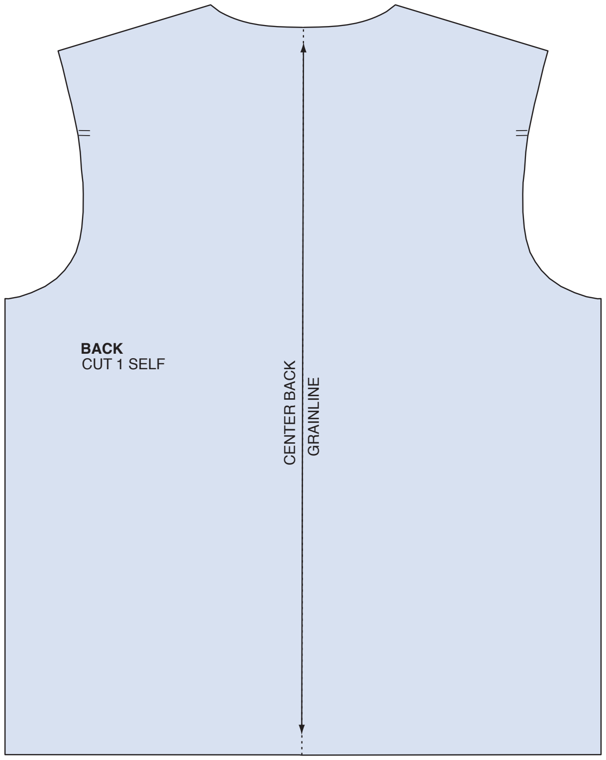
STEP 4
FRONT PATTERN

- Trace off the front onto a new piece of paper and, following the instructions on page 50, create the full pattern shape, which will be cut down the right side of the placket to create an opening.


FRONT
CUT 1 SELF
CENTER FRONT
GRAINLINE

STEP 5
BACK PATTERN

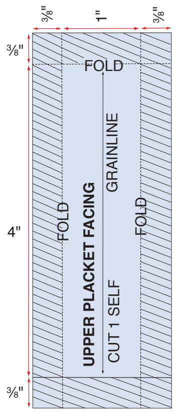
- Trace off the back onto a new piece of paper and, following the instructions on page 50, create the full pattern shape.

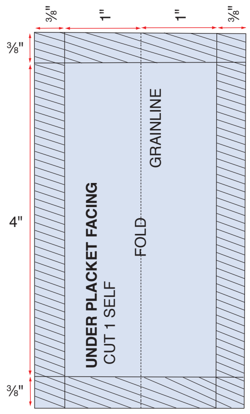

BACK
CUT 1 SELF
CENTER BACK
GRAINLINE

STEP 6

UPPER AND UNDER PLACKET FACING PATTERNS

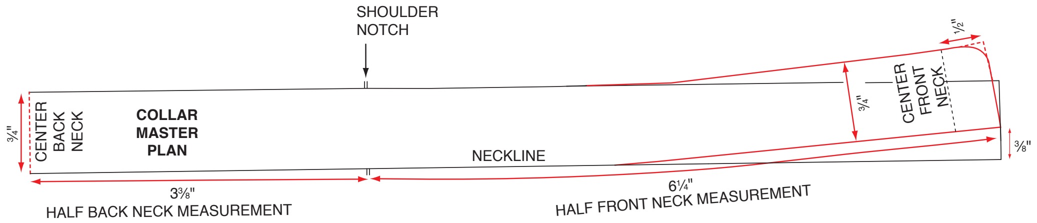
- Draw a rectangle 4¾in long by 1¾in wide; this measurement includes a ⅜in seam allowance around all four edges.
- Indicate the ⅜in seam allowance around all four sides, leaving a 4in x 1in facing. This will form the upper placket facing.
- Draw a rectangle 4¾in long by 2¾in wide; this measurement includes a ⅜in seam allowance around all four edges.
- Indicate the ⅜in seam allowance around all four sides and divide the rest of the width in half to give a 1in facing when folded. This will form the under placket facing.


⅜"
1"
⅜"
⅜"
4"
⅜"
FOLD
FOLD
FOLD
GRAINLINE
UPPER PLACKET FACING
CUT 1 SELF


⅜"
1"
1"
⅜"
⅜"
4"
⅜"
GRAINLINE
FOLD
UNDER PLACKET FACING
CUT 1 SELF

STEP 7
DEVELOPING A COLLAR STAND FOR A KNITTED RIBBED COLLAR

- Draw a rectangular box ³⁄₄in wide and 9³⁄₄in long. Label the narrow side as the *center back neck* and the long side as the *neckline*.
- From the center back measure 3³⁄₈in along the neckline and mark a notch. This is the half back neck measurement; the remaining 6¹⁄₄in is the half front neck measurement, including half the placket width, ¹⁄₂in.
- At the front end of the collar stand measure up ³⁄₈in and make a mark. From this mark, with a shallow curve, draw a new line blending back to the shoulder notch.
- Complete the stand by drawing another new line ³⁄₄in from the first and blending it back. Square up from the end of the new neckline to complete the front of the stand, drawing a curved line at the upper corner.
- Measure ¹⁄₂in (half the width of the placket) from the front of the stand back toward the shoulder line, square across, and label it *center front neck*.

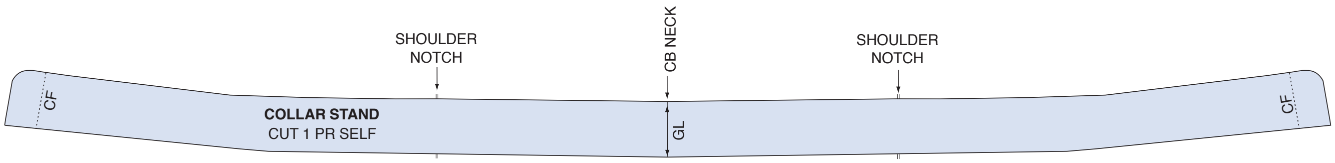

SHOULDER NOTCH
½"
¾"
CENTER BACK NECK
COLLAR MASTER PLAN
¾"
CENTER FRONT NECK
⅜"
NECKLINE
3⅜"
HALF BACK NECK MEASUREMENT
6¼"
HALF FRONT NECK MEASUREMENT

STEP 8
COLLAR STAND PATTERN

- Trace off the collar stand onto a new piece of paper and, following the instructions on page 50, create the full pattern shape.

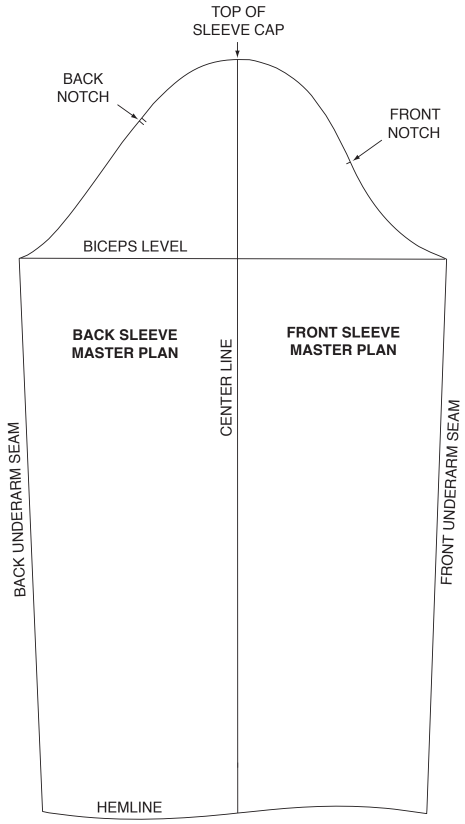
Knitted ribbed collars

Knitted ribbed collars are piece-manufactured to order, or can be bought in specific standard neck measurements according to style and inserted between the two parts of the stand.


SHOULDER NOTCH
CB NECK
SHOULDER NOTCH
CF
COLLAR STAND
CUT 1 PR SELF
GL
CF

STEP 9

DEVELOPING THE SLEEVE MASTER PLAN


TOP OF
SLEEVE CAP
BACK
NOTCH
FRONT
NOTCH
BICEPS LEVEL
BACK SLEEVE
MASTER PLAN
FRONT SLEEVE
MASTER PLAN
CENTER LINE
BACK UNDERARM SEAM
FRONT UNDERARM SEAM
HEMLINE

Start this development by selecting the basic men's sleeve sloper, or by drafting the basic sleeve sloper according to the instructions on page 42. Cut a large piece of drafting paper slightly longer than the length of the sleeve you want to develop and transfer the shape of the sloper and all marks, labels, and instructions following the directions on page 48. The design illustrated is a short sleeve with a ribbed cuff. The sleeve sloper that you have selected might be longer or shorter than the design you are developing. Analyze it by taking a measurement from your fit model or dress form and by consulting the size chart, or even by using competitors' garments for comparison.

STEP 10

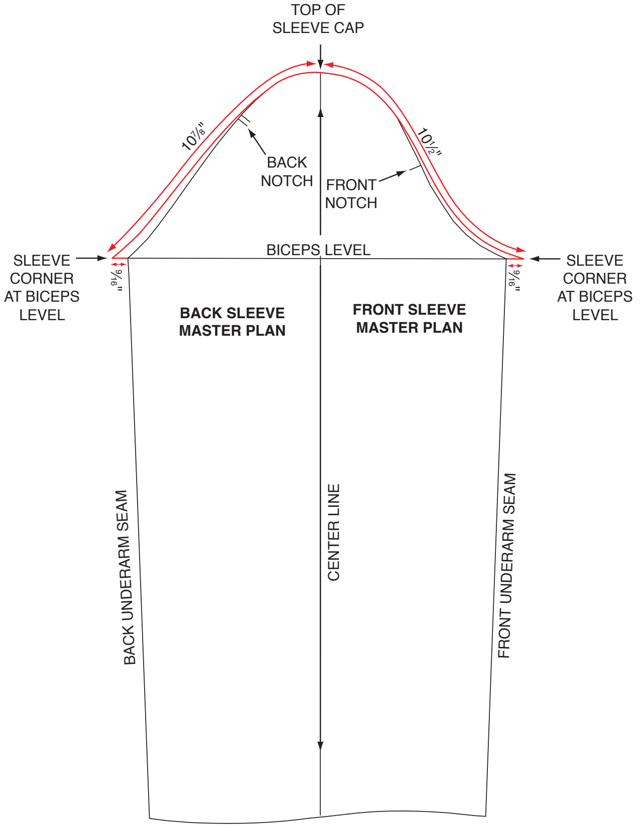
WIDENING THE SLEEVE CAP FOR THE LOWERED ARMHOLE

Adjusting the sleeve cap to fit the armhole

Having enlarged the sleeve circumference in Step 2, you will need to check the length of the sleeve cap and increase it according to the new armhole measurement.

Measure the front and back of the original armhole on the master plan (in this case $9^{3}/_{4}$in and $9^{7}/_{8}$in respectively), then the new armhole ($10^{1}/_{2}$in and $10^{7}/_{8}$in respectively). Compare this to the sleeve cap measurement and increase the length of the sleeve cap by the same amount.

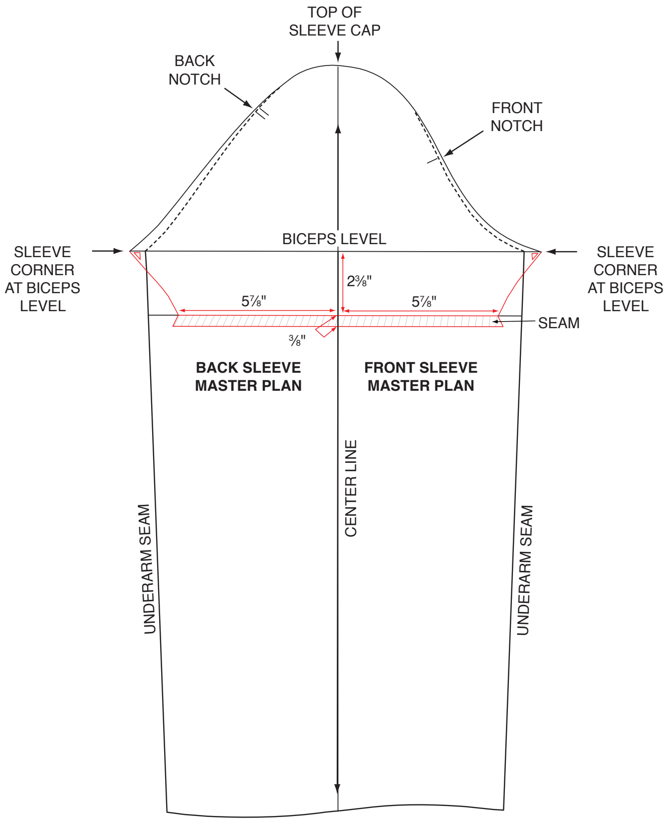
Knitted materials need very little ease on the sleeve cap, so in this case ease was not added to the new sleeve cap measurement.


TOP OF
SLEEVE CAP
10⅞"
10½"
BACK
NOTCH
FRONT
NOTCH
BICEPS LEVEL
SLEEVE
CORNER
AT BICEPS
LEVEL
SLEEVE
CORNER
AT BICEPS
LEVEL
9⁄16"
9⁄16"
BACK SLEEVE
MASTER PLAN
FRONT SLEEVE
MASTER PLAN
BACK UNDERARM SEAM
CENTER LINE
FRONT UNDERARM SEAM

- Extend the biceps level out $^{9}/_{16}$in on both sides.
- Using the original sleeve sloper as a template, redraw the new sleeve cap shape and indicate the new notch positions to match those on the lowered armhole.

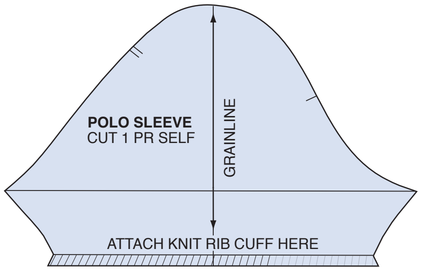
STEP 11
DEVELOPING THE SHORT SLEEVE

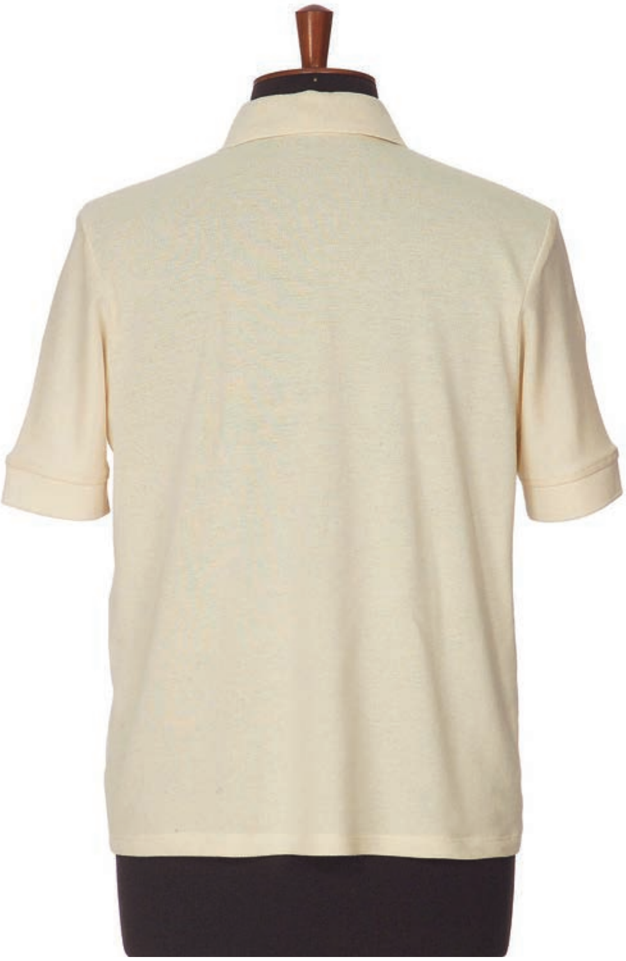
- Measure 2⅜in down the center line from the biceps level and square across the sleeve width.
- From the center of this new line measure 5⅞in out to both sides and mark. This is the new sleeve cuff width.
- Join the extended sleeve cap to the edge of the cuff width with a curved line on both sides.
- Continue to measure a further ⅜in down the center line and square across to create a seam to attach the knitted ribbed cuff. Both ends of this seam allowance should be extended by ⅜in so that when it is folded up, the seam allowance matches the shape of the cuff.

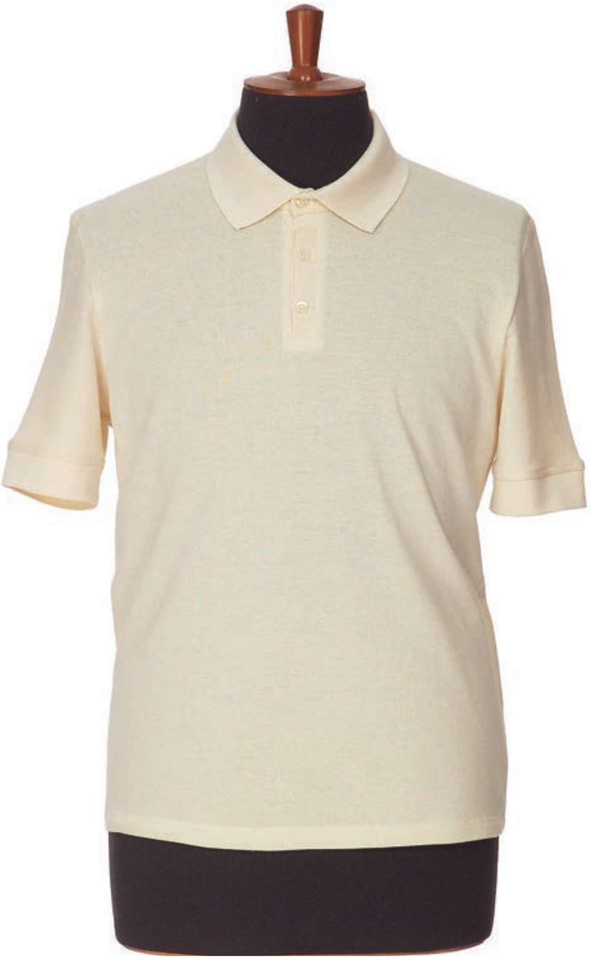

TOP OF SLEEVE CAP
BACK NOTCH
FRONT NOTCH
SLEEVE CORNER AT BICEPS LEVEL
BICEPS LEVEL
SLEEVE CORNER AT BICEPS LEVEL
2⅜"
5⅞"
5⅞"
SEAM
⅜"
BACK SLEEVE MASTER PLAN
FRONT SLEEVE MASTER PLAN
CENTER LINE
UNDERARM SEAM
UNDERARM SEAM

STEP 12
POLO SLEEVE PATTERN

- Following the instructions on page 50, trace off the sleeve pattern.

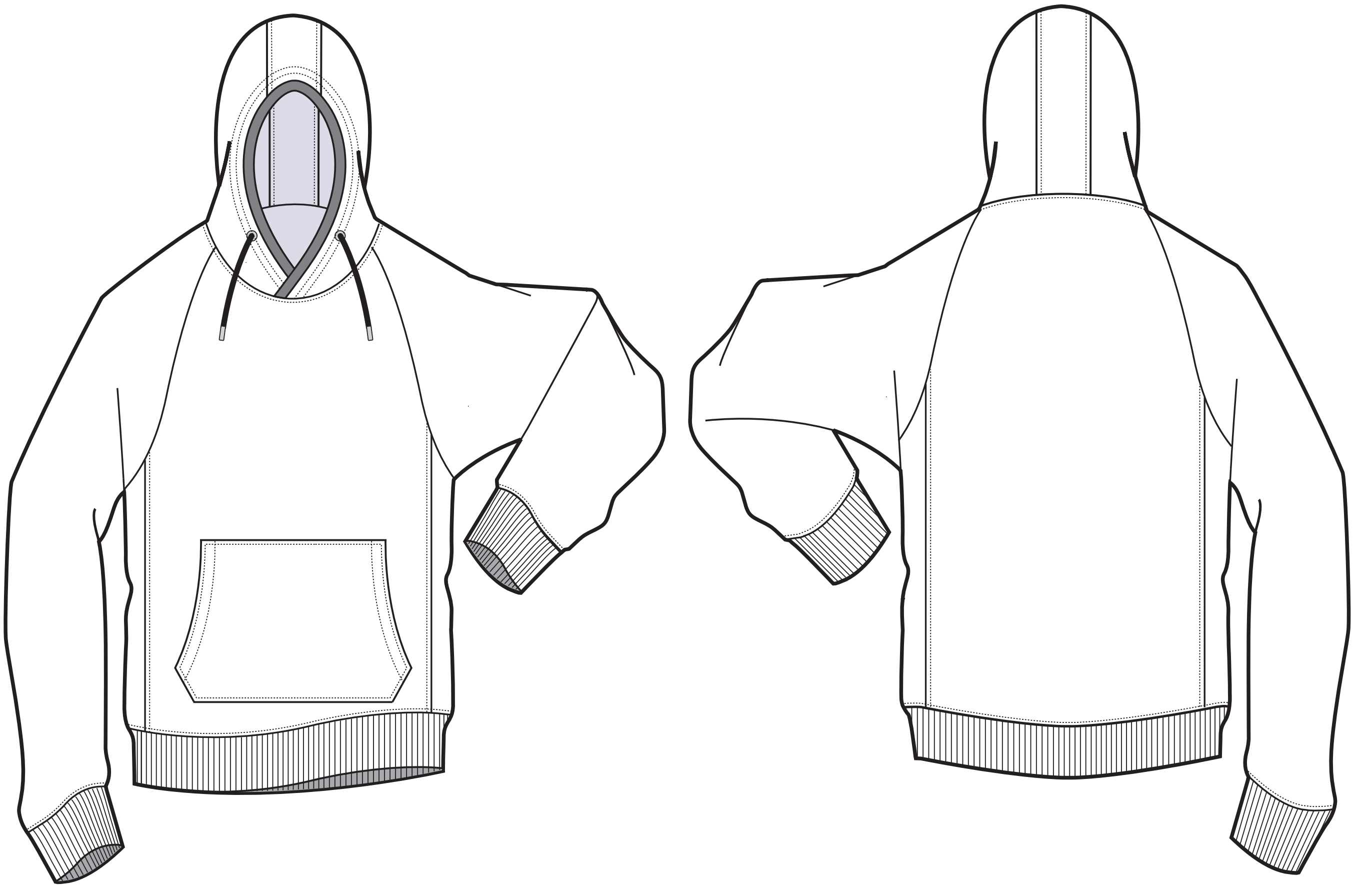

POLO SLEEVE
CUT 1 PR SELF
GRAINLINE
ATTACH KNIT RIB CUFF HERE





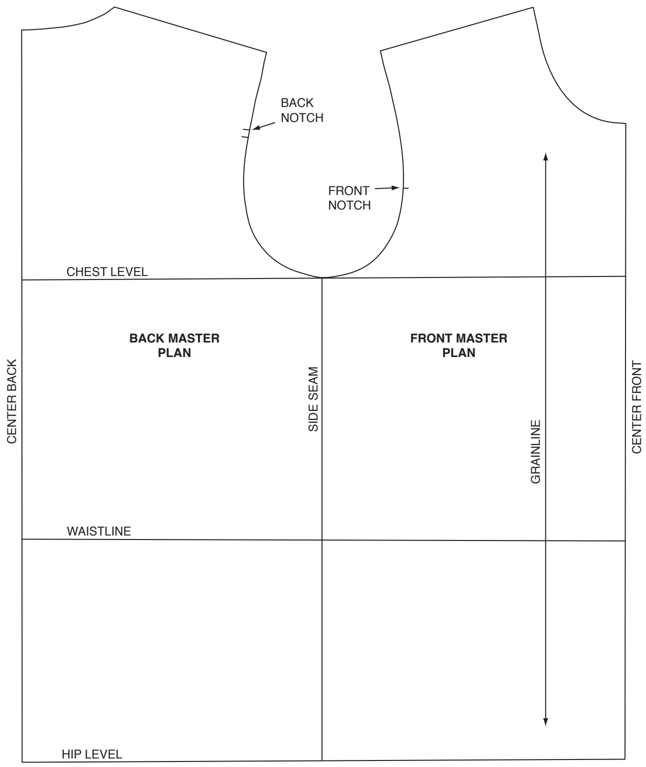
PATTERN

HOODED SWEATSHIRT



This pattern includes development of the following features:
Creating a side panel
Lowering the neckline
Constructing a muff pocket
Lowering the armhole
Widening the sleeve cap and lowering the cap height
Constructing a raglan panel sleeve
Reducing the length of the sleeve
Incorporating a ribbed cuff and waistband
Constructing a hood

Assess the function of the garment
Before embarking on any pattern development, first identify the purpose of the garment. A hooded sweatshirt is generally worn over other clothes, so you would need to make the pattern slightly larger to accommodate the clothes worn beneath it.


BACK NOTCH
FRONT NOTCH
CHEST LEVEL
BACK MASTER PLAN
FRONT MASTER PLAN
CENTER BACK
SIDE SEAM
GRAINLINE
CENTER FRONT
WAISTLINE
HIP LEVEL

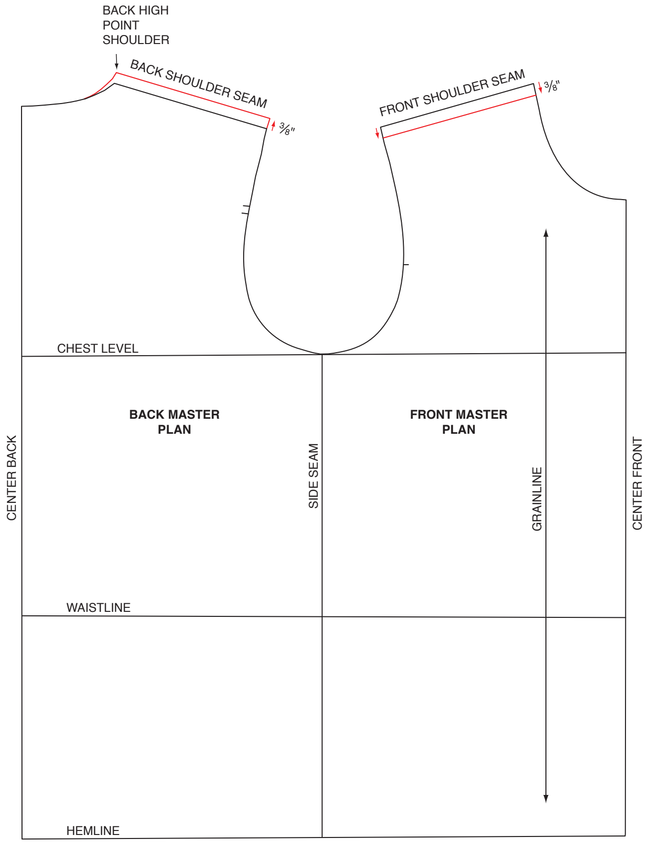
STEP 1
DEVELOPING THE MASTER PLAN

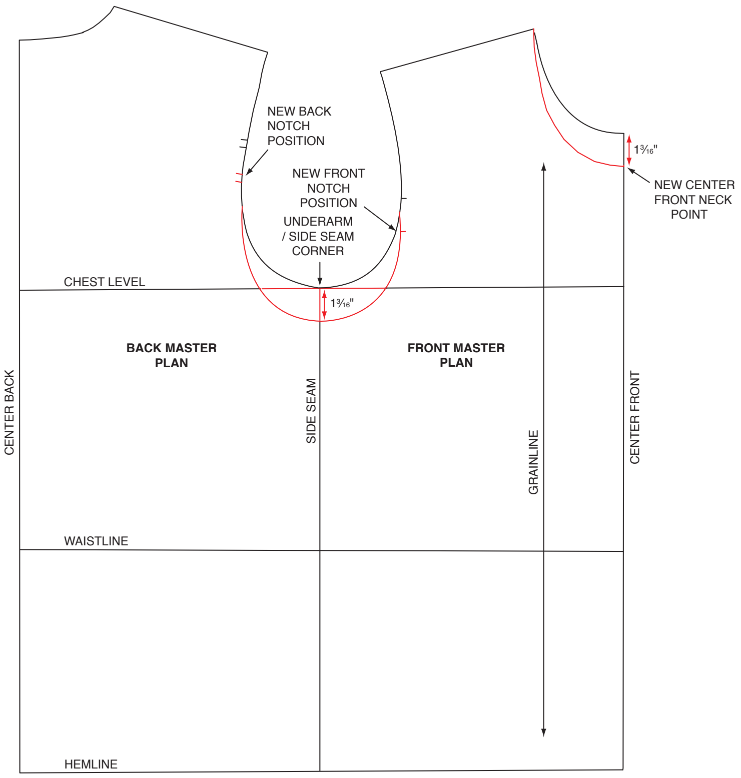
- Start by selecting the basic men's upper body sloper, or by drafting the basic sloper according to the instructions on page 40. Cut a large piece of drafting paper slightly longer than the length of the sweatshirt you want to develop and transfer the shape of the sloper and all marks, labels, and instructions following the directions on page 48.

STEP 2
MOVING THE SHOULDER SEAM

Raglan sleeve development
The first stage in raglan sleeve development is to move the shoulder seam from the back of the shoulder forward to the front of the pattern. This balances the front and back pattern pieces, so that when the raglan shapes are drawn, the new shoulder seam sits centrally on the top of the shoulder.

- To move the shoulder seam forward, remove $^{3}/_{8}$in from the front shoulder seam and add $^{3}/_{8}$in to the back shoulder seam. Measure the new front shoulder seam. The back shoulder seam should be the same length, so it will extend beyond the original back high point shoulder. You will need to redraw the back neckline, blending it back from the new back high point shoulder.


BACK HIGH POINT SHOULDER
BACK SHOULDER SEAM
3/8"
FRONT SHOULDER SEAM
3/8"
CHEST LEVEL
BACK MASTER PLAN
FRONT MASTER PLAN
CENTER BACK
SIDE SEAM
GRAINLINE
CENTER FRONT
WAISTLINE
HEMLINE


NEW BACK
NOTCH
POSITION
NEW FRONT
NOTCH
POSITION
UNDERARM
/ SIDE SEAM
CORNER
1 3⁄16"
NEW CENTER
FRONT NECK
POINT
CHEST LEVEL
1 3⁄16"
BACK MASTER
PLAN
FRONT MASTER
PLAN
CENTER BACK
SIDE SEAM
GRAINLINE
CENTER FRONT
WAISTLINE
HEMLINE

STEP 3

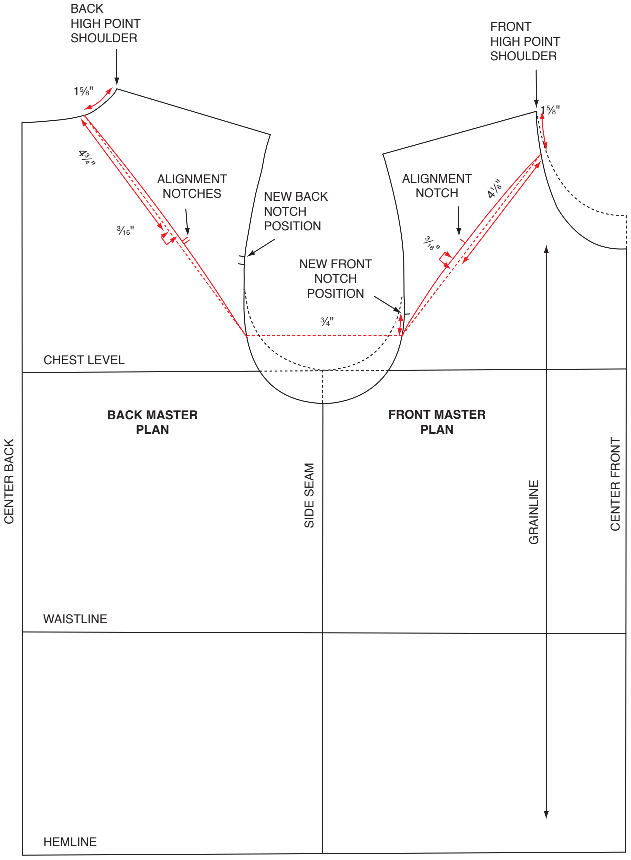
LOWERING THE ARMHOLE ON THE BODY AND CENTER FRONT NECKLINE

- Measure $1\frac{3}{16}$in down the side seam from the underarm / side seam corner and mark. Using the original sloper as a template, recreate the shape of the armhole and transfer the back and front notches to their new positions on the lowered armhole.
- Measure down $1\frac{3}{16}$in from the center front neck point and mark. Using the sloper as a template, redraw the new lowered neckline.

STEP 4

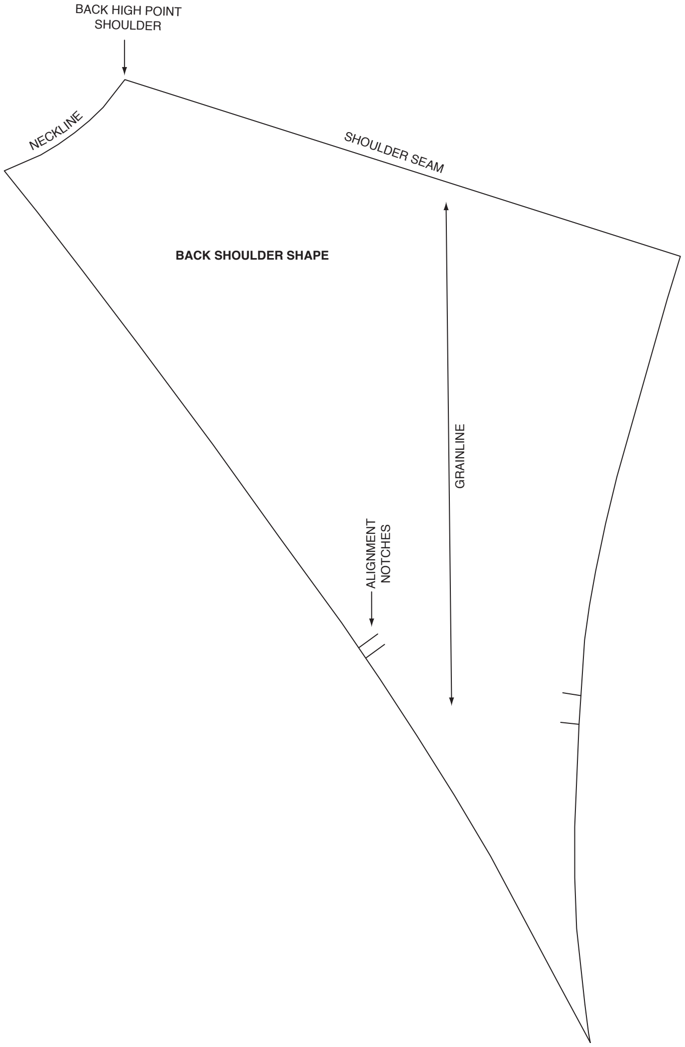
CREATING THE RAGLAN SHOULDER SHAPES ON THE UPPER BODY SLOPER

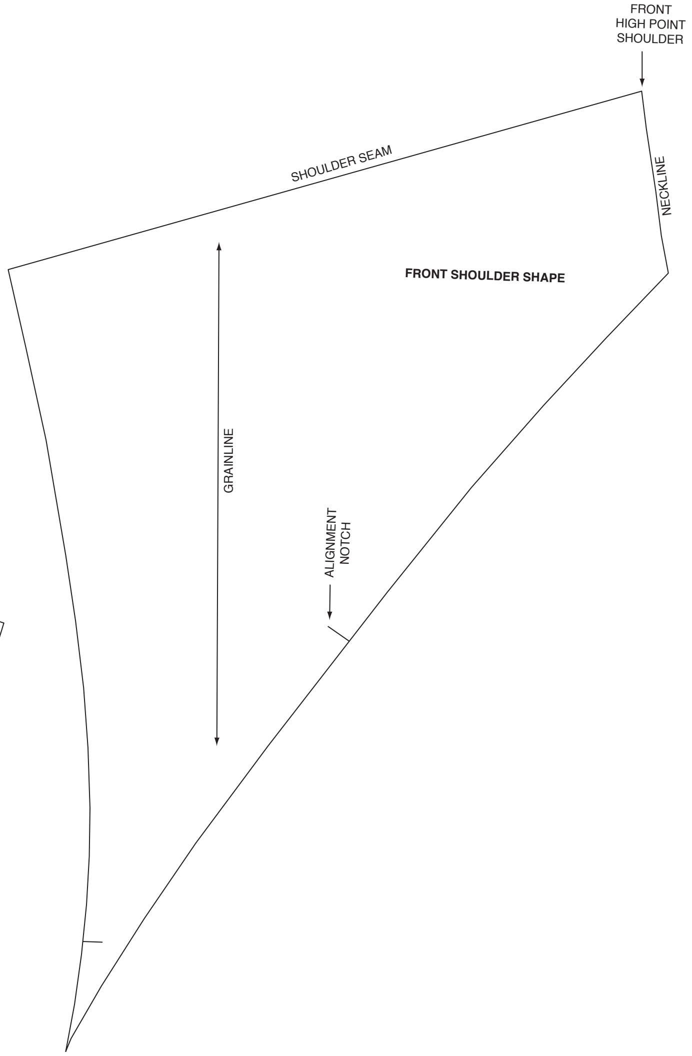
- First measure $1\frac{5}{8}$in down the back neckline from the back high point shoulder and mark, and $1\frac{5}{8}$in down the front neckline from the front high point shoulder and mark.
- Next measure $\frac{3}{4}$in down from the new front notch on the armhole and square across to the back armhole and mark. From these points draw a straight line up to each of the marks you made on the front and back necklines.
- From the back neckline measure $4\frac{3}{4}$in down this line, and from the front neckline measure $4\frac{1}{8}$in. Square up $\frac{3}{16}$in on each line and mark.
- With a shallow curve, draw lines from the points on the back and front necklines to the armholes, this time passing through the marks at $\frac{3}{16}$in.


BACK
HIGH POINT
SHOULDER
FRONT
HIGH POINT
SHOULDER
1 5⁄8"
1 5⁄8"
4 3⁄4"
ALIGNMENT
NOTCHES
NEW BACK
NOTCH
POSITION
ALIGNMENT
NOTCH
4 1⁄8"
3⁄16"
3⁄16"
NEW FRONT
NOTCH
POSITION
3⁄4"
CHEST LEVEL
BACK MASTER
PLAN
FRONT MASTER
PLAN
CENTER BACK
SIDE SEAM
GRAINLINE
CENTER FRONT
WAISTLINE
HEMLINE

STEP 5
DEVELOPING THE RAGLAN SHAPE

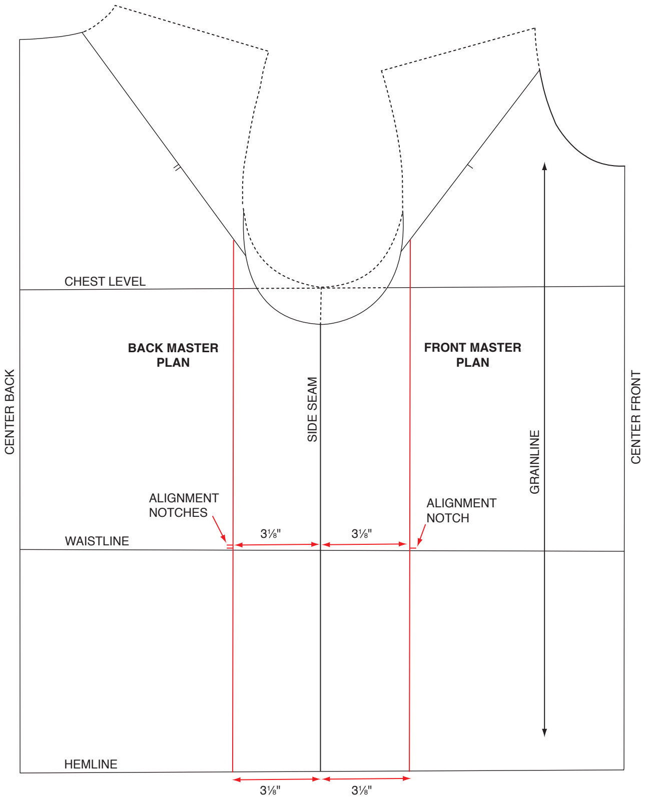
- Trace off the shoulder shapes, which will be used to create the raglan sleeve, adding front and back notches for alignment.

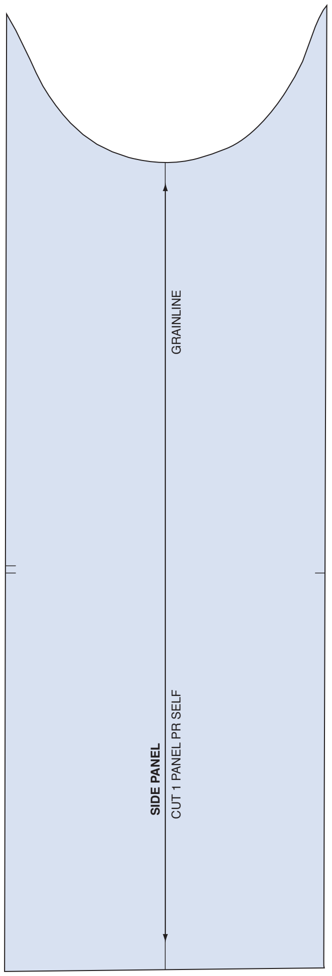

BACK HIGH POINT SHOULDER
NECKLINE
SHOULDER SEAM
BACK SHOULDER SHAPE
GRAINLINE
ALIGNMENT NOTCHES


FRONT HIGH POINT SHOULDER
SHOULDER SEAM
NECKLINE
FRONT SHOULDER SHAPE
GRAINLINE
ALIGNMENT NOTCH

STEP 6
DEVELOPING THE SIDE PANEL

- First measure 3⅛in out from the side seam along the waistline toward the center front and center back. Repeat at the hemline and draw two vertical lines up to the raglan style line to create the side panel.


CHEST LEVEL
BACK MASTER PLAN
FRONT MASTER PLAN
CENTER BACK
SIDE SEAM
GRAINLINE
CENTER FRONT
ALIGNMENT NOTCHES
ALIGNMENT NOTCH
3⅛"
3⅛"
WAISTLINE
HEMLINE
3⅛"
3⅛"

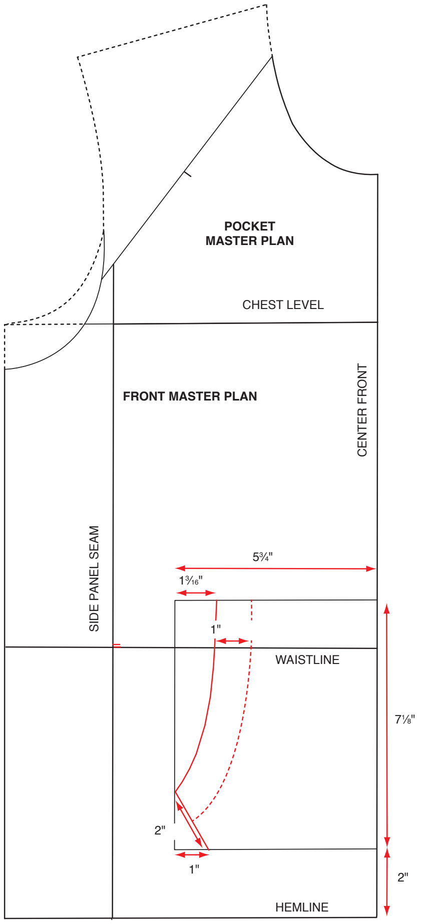

GRAINLINE
SIDE PANEL
CUT 1 PANEL PR SELF

STEP 7
SIDE PANEL PATTERN

- Following the instructions on page 50, trace off the new side panel shape and mark the side panel style lines with notches, two for the back and one for the front, to aid alignment during construction.

STEP 8
DEVELOPING THE CENTER FRONT MUFF POCKET

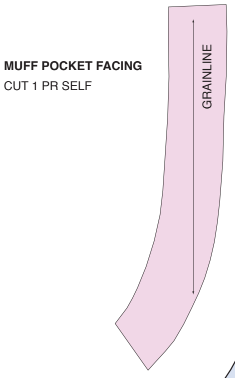
- Start by developing half of the muff pocket from the center front. Measure up 2in from the hemline and mark, continue measuring up a further 7⅛in and mark. From both these points square across 5¾in toward the side panel style line and mark. Create a rectangle by joining all four points.
- Measure in 1in from the bottom left corner of the rectangle. Connect this point back to the vertical left-hand side with an angled line 2in in length. Measure in 1³⁄₁₆in from the top left corner. From this point, draw a shallow curved line down to connect with the top of the angled line. This will become the curved pocket opening.
- To create a facing for the front opening, measure in a further 1in along the shallow curved line of the front opening, and draw in the shape of the facing.



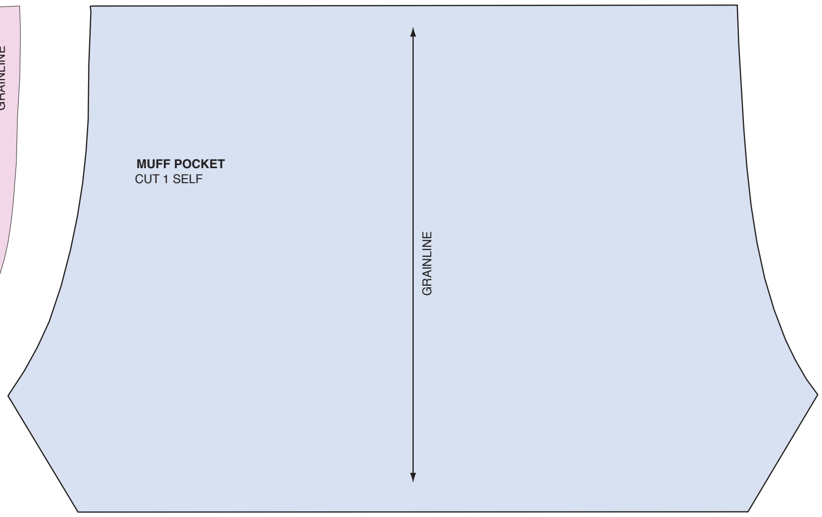
POCKET MASTER PLAN
CHEST LEVEL
FRONT MASTER PLAN
CENTER FRONT
SIDE PANEL SEAM
5¾"
1³⁄₁₆"
1"
WAISTLINE
7⅛"
2"
1"
2"
HEMLINE

STEP 9
MUFF POCKET AND FACING PATTERNS

- Trace off the muff pocket shape onto a new piece of paper and, following the instructions on page 50, create the full pattern shape.
- Following the instructions on page 50, trace off the facing pattern.



MUFF POCKET FACING
CUT 1 PR SELF
GRAINLINE

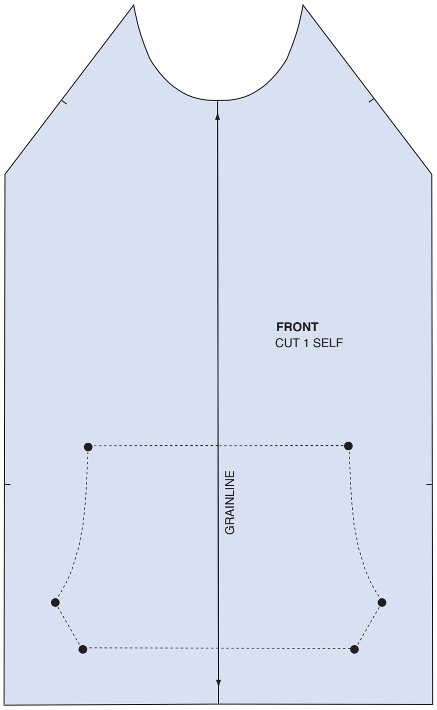


MUFF POCKET
CUT 1 SELF
GRAINLINE

STEP 10

FRONT PATTERN

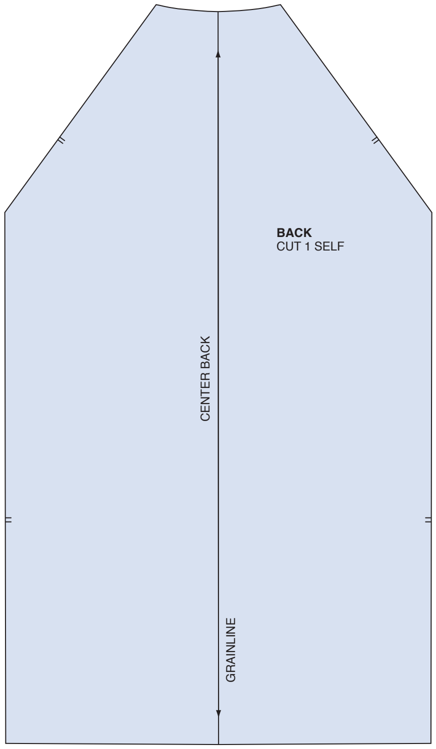
- Trace off the front onto a new piece of paper and, following the instructions on page 50, create the full pattern shape, adding drill holes for the muff pocket placement.


FRONT
CUT 1 SELF
GRAINLINE

STEP 11

BACK PATTERN

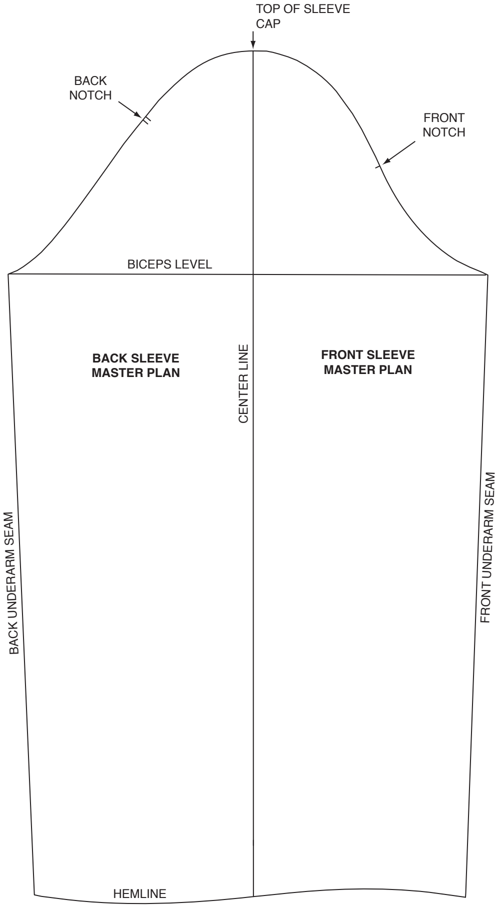
- Trace off the back onto a new piece of paper and, following the instructions on page 50, create the full pattern shape.


BACK
CUT 1 SELF
CENTER BACK
GRAINLINE

STEP 12

DEVELOPING THE SLEEVE MASTER PLAN

Start this development by selecting the basic men's sleeve sloper, or by drafting the basic sleeve sloper according to the instructions on page 42. Cut a large piece of drafting paper slightly longer than the length of the sleeve you want to develop and transfer the shape of the sloper and all marks, labels, and instructions, following the directions on page 48. The sleeve sloper that you have selected might be longer or shorter than the design you are developing. Analyze it by taking a measurement from your fit model or dress form and by consulting the size chart, or even by using competitors' garments for comparison.


TOP OF SLEEVE CAP
BACK NOTCH
FRONT NOTCH
BICEPS LEVEL
BACK SLEEVE MASTER PLAN
CENTER LINE
FRONT SLEEVE MASTER PLAN
BACK UNDERARM SEAM
FRONT UNDERARM SEAM
HEMLINE

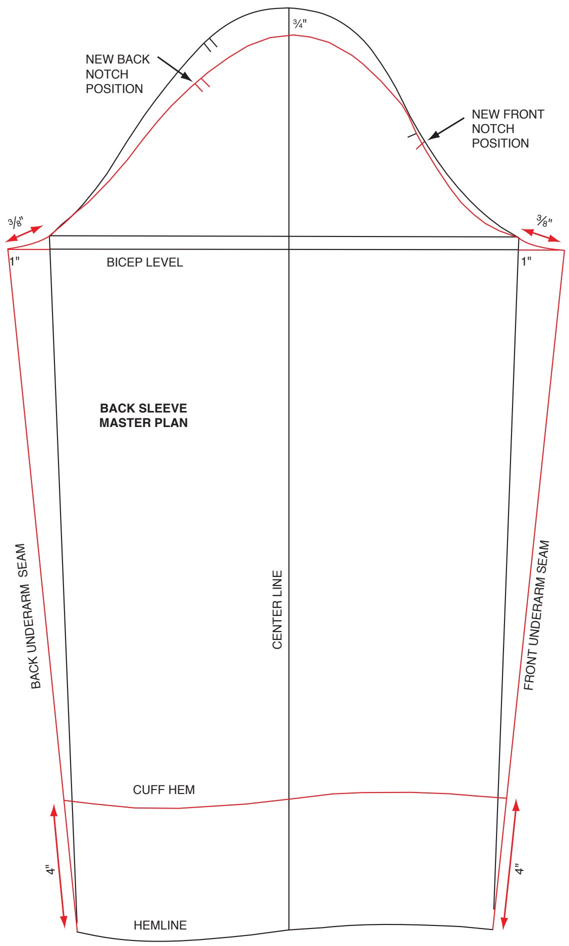
STEP 13

WIDENING THE SLEEVE CAP WITH A LOWERED CAP AND REDUCING THE SLEEVE LENGTH

- To make the sleeve cap larger, to fit the larger armhole created in Step 3, and give the finished raglan a casual fit, you will need to reduce the cap height. Measure down the center line ¾in.
- Extend the biceps level out by up to the measurement that you lowered the armhole by, and not beyond. In this case, extend the line out by 1in on both sides.

Altering the sleeve cap to fit the armhole
You must take the new measurement from the armhole so you can match it with the sleeve cap plus or minus ease, depending on fabric and fit.

- Using the original sleeve sloper as a template, redraw the sleeve cap shape and add the new back and front notch positions to match those on the lowered armhole. Redraw the underarm seam lines from the new points at the end of the biceps level down to the hemline at the cuff.
- Reduce the sleeve length by measuring up 4in from the hemline and redraw the line following the shape on the original sloper.

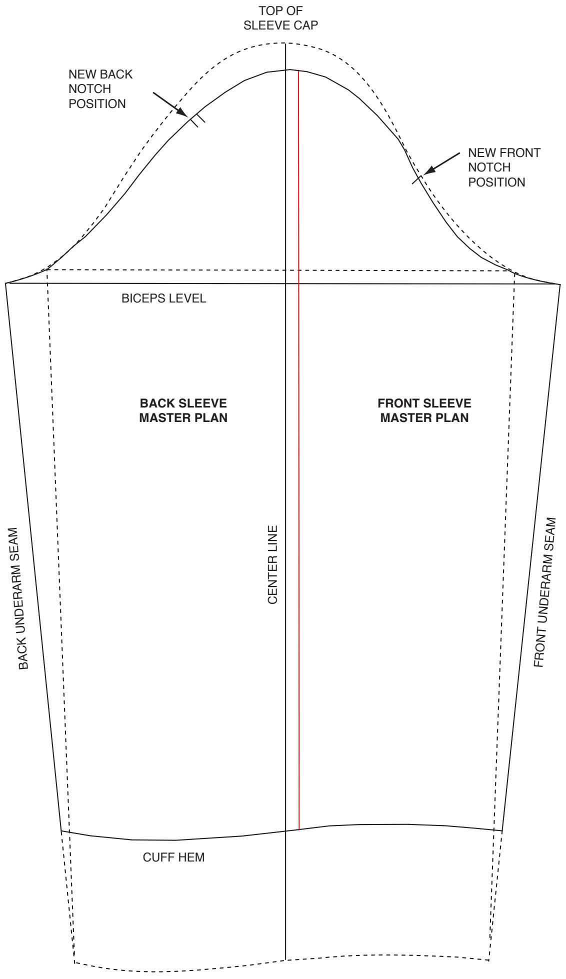

NEW BACK NOTCH POSITION
¾"
NEW FRONT NOTCH POSITION
⅜"
⅜"
1"
BICEP LEVEL
1"
BACK SLEEVE MASTER PLAN
BACK UNDERARM SEAM
CENTER LINE
FRONT UNDERARM SEAM
CUFF HEM
4"
4"
HEMLINE

STEP 14

MOVING THE CENTER LINE FORWARD TO DEVELOP THE RAGLAN SLEEVE

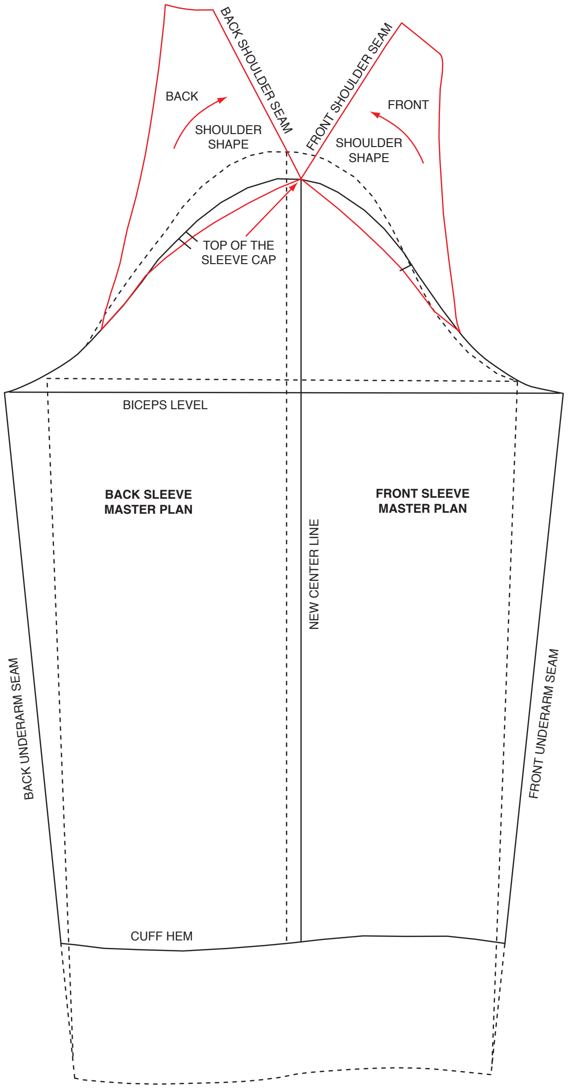
Moving the center line on the raglan sleeve
In the same way that you adjusted the shoulder seams in Step 2, you now need to move the seam on the sleeve.

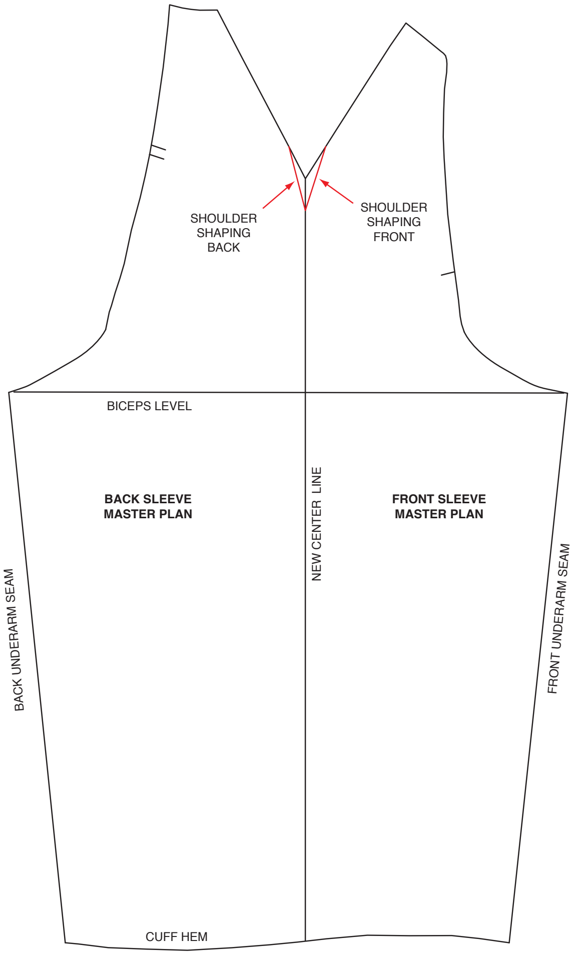
- Measure ⅜in from the center line toward the front underarm seam. At this ⅜in measurement, draw a straight line from the top of the sleeve to the hem. The top of this line is the new top of the sleeve cap.


TOP OF SLEEVE CAP
NEW BACK NOTCH POSITION
NEW FRONT NOTCH POSITION
BICEPS LEVEL
BACK SLEEVE MASTER PLAN
FRONT SLEEVE MASTER PLAN
BACK UNDERARM SEAM
CENTER LINE
FRONT UNDERARM SEAM
CUFF HEM

STEP 15
CREATING THE RAGLAN SHAPE OF THE SLEEVE

- Trace the raglan shoulder shapes from Step 4 onto the sleeve cap by placing the shoulder tips together at the new top of the sleeve cap and aligning the tips of the raglan shapes to the sleeve cap lines.


BACK
SHOULDER SHAPE
BACK SHOULDER SEAM
FRONT SHOULDER SEAM
FRONT
SHOULDER SHAPE
TOP OF THE SLEEVE CAP
BICEPS LEVEL
BACK SLEEVE MASTER PLAN
FRONT SLEEVE MASTER PLAN
NEW CENTER LINE
BACK UNDERARM SEAM
FRONT UNDERARM SEAM
CUFF HEM


SHOULDER SHAPING BACK
SHOULDER SHAPING FRONT
BICEPS LEVEL
BACK SLEEVE MASTER PLAN
NEW CENTER LINE
FRONT SLEEVE MASTER PLAN
BACK UNDERARM SEAM
FRONT UNDERARM SEAM
CUFF HEM

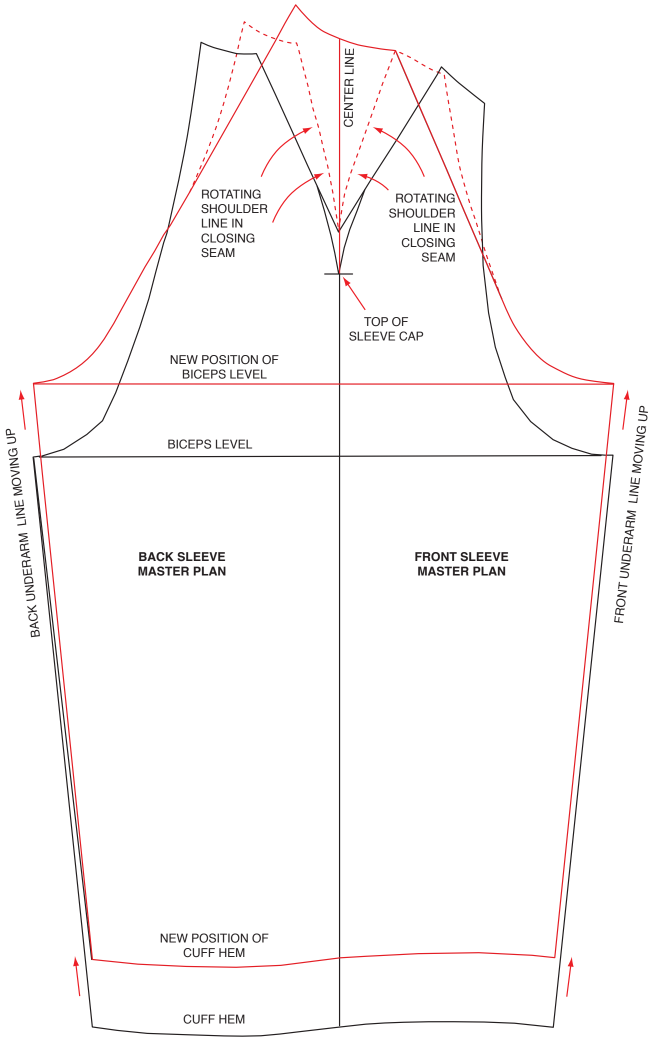
STEP 16
SMOOTHING OUT THE TOP OF THE SLEEVE CAP

- Trace the raglan sleeve onto a separate piece of paper. To create smooth lines around the raglan sleeve cap, shape the top of the sleeve cap so that it is less angular, and smooth out the joins on the sleeve cap with shallow curves. When closing the shoulder shapes the removed volume will help to avoid extra width through the shoulder seams.

STEP 17

CLOSING THE RAGLAN SHOULDER SHAPES ON THE SLEEVE CAP TO CREATE A CASUAL, ONE-PIECE RAGLAN SLEEVE

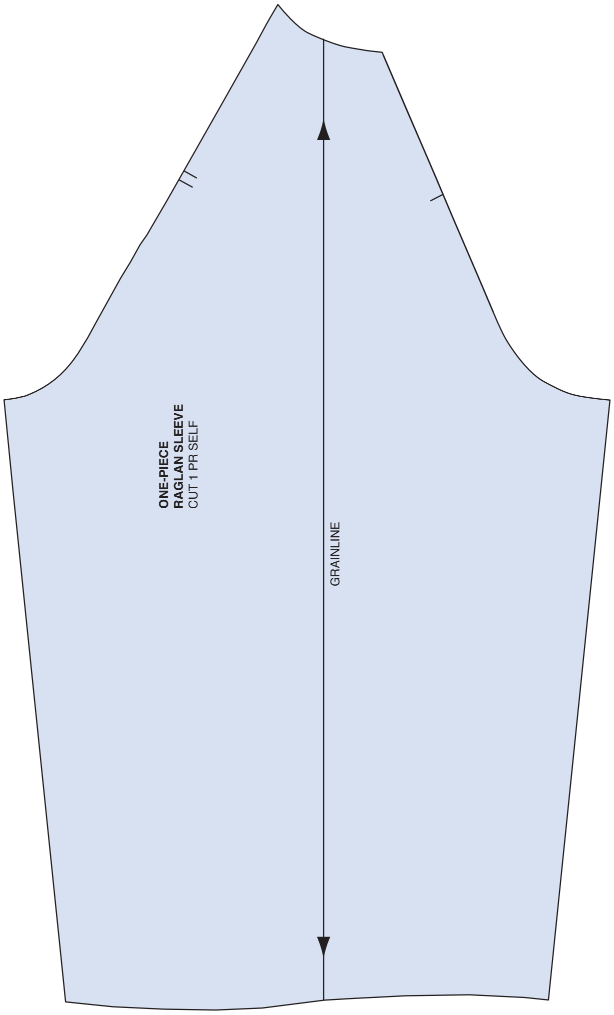
- To create a one-piece raglan sleeve you must close the front and back shoulder shape on the sleeve cap. Measure the front and back shoulder seam lines from the neckline down to the top of the sleeve cap. Then extend the new center line up from the top of the sleeve cap to beyond the shoulder seam length.
- Trace the raglan sleeve from Step 16 onto a separate piece of paper; repeat the process for the back raglan sleeve master plan. Then place the front traced sleeve cap over the original one, aligning the underarm lines. From the top of the sleeve cap moving up the new center line, rotate the front shoulder seams along the center line. Mark the sleeve width of the shoulder panel periodically as you move along the center line until you reach the neckline; draw in the new position of the front neckline. Place the back traced sleeve cap over the original one, aligning the underarm lines. From the top of the sleeve cap moving up the new center line, rotate the back shoulder seams along the center line. Mark the sleeve width of the shoulder panel periodically as you move along the center line until you reach the neckline.
- By closing the shoulder seams you have raised the biceps level to a new position, straightening the curved shoulder line. To establish the front and back sleeve seams, align them with the biceps width. Once you are able to connect these three lines, redraw the sleeve length in its new position.
- Place the front and back sleeve seams at the new neckline position. To keep the same sleeve cap height, measure the biceps width, place the front shoulder seam at the new neckline, trace down the length, and redraw in the new position of the front shoulder seam to the biceps level.
- Draw in the new position of the back neckline, place the back shoulder seam at the new neckline, trace down the length, and redraw in the new position of the back shoulder seam to the biceps level.


CENTER LINE
ROTATING SHOULDER LINE IN CLOSING SEAM
ROTATING SHOULDER LINE IN CLOSING SEAM
TOP OF SLEEVE CAP
NEW POSITION OF BICEPS LEVEL
BICEPS LEVEL
BACK UNDERARM LINE MOVING UP
FRONT UNDERARM LINE MOVING UP
BACK SLEEVE MASTER PLAN
FRONT SLEEVE MASTER PLAN
NEW POSITION OF CUFF HEM
CUFF HEM

STEP 18

ONE-PIECE RAGLAN SLEEVE PATTERN

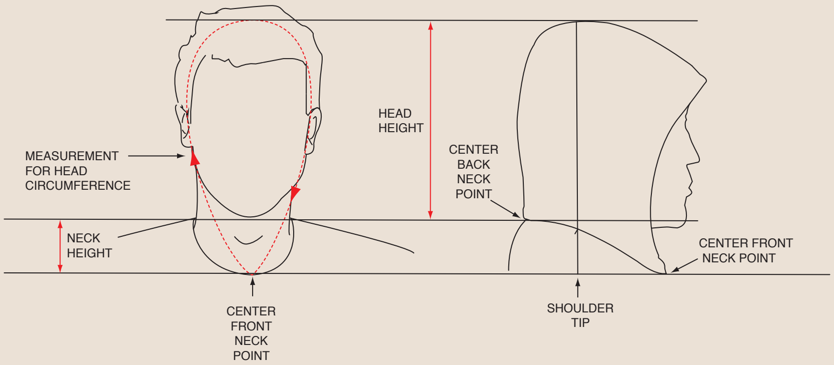
- Following the instructions on p. 50, trace off the final one-piece raglan sleeve pattern.

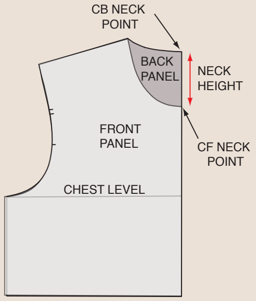

ONE-PIECE RAGLAN SLEEVE
CUT 1 PR SELF
GRAINLINE

Taking measurements for the hood

There are three measurements you need to create the pattern for the hood:

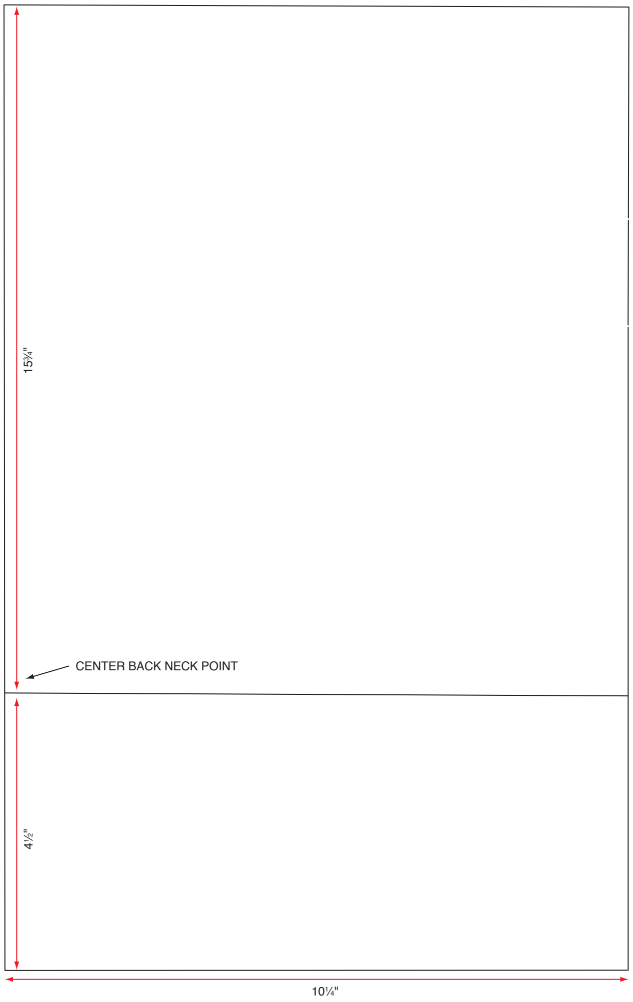
1. The front and back neck measurements, taken from the pattern—here they are 6½in and 3¾in.
2. The front and back neck height, found by placing the front pattern on top of the back pattern and aligning them at the chest level, then measuring the distance between the front and back neck heights—here it is 4½in.
3. The vertical circumference of the head, taken for the hood opening by measuring around the face of the model's head, starting and finishing at the center front neck point—here it is 31½in.


MEASUREMENT FOR HEAD CIRCUMFERENCE
NECK HEIGHT
CENTER FRONT NECK POINT
HEAD HEIGHT
CENTER BACK NECK POINT
SHOULDER TIP
CENTER FRONT NECK POINT


CB NECK POINT
BACK PANEL
NECK HEIGHT
FRONT PANEL
CF NECK POINT
CHEST LEVEL

STEP 19
DEVELOPING THE HOOD

- Starting at the bottom left-hand side of a piece of paper, draw a 10¼in horizontal line—the length of the combined back and front neck measurements.
- Square up and draw a 15¾in line (half of the head circumference). Square across and then down to complete the rectangular box.
- Mark the bottom left corner and label as the *center back neck point*.
- From the bottom left and right corners measure down 4½in (the neck height) and mark. Join the marks to form a rectangle.


15¾"
CENTER BACK NECK POINT
4½"
10¼"

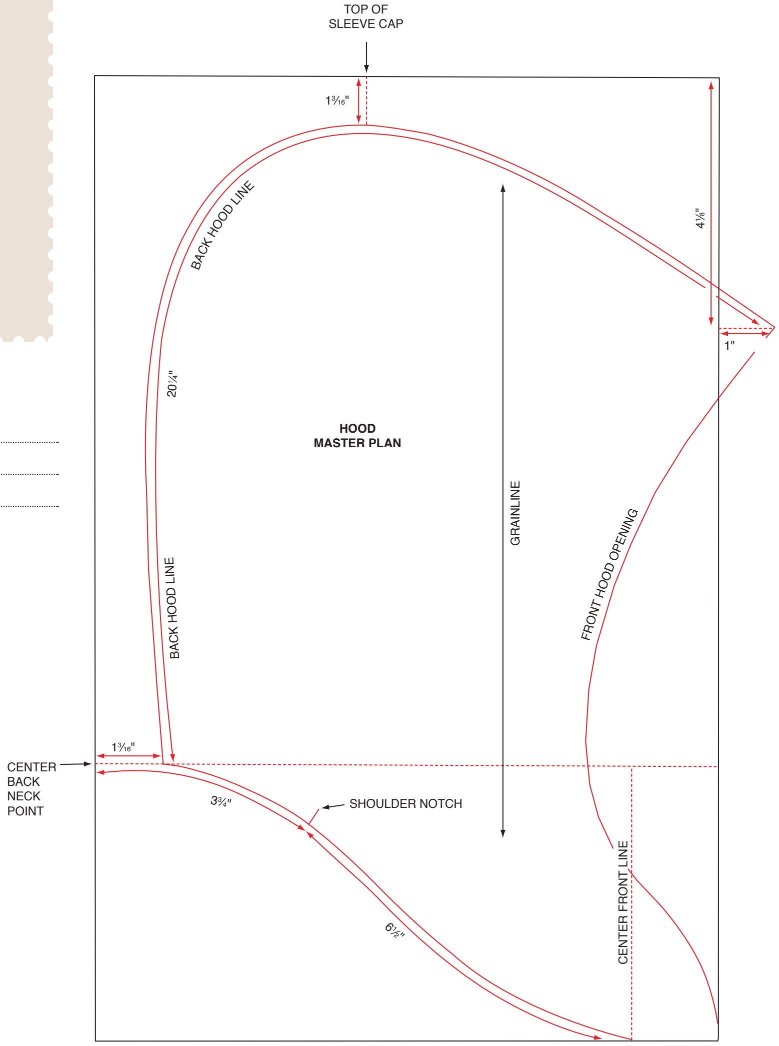
STEP 20
SHAPING THE HOOD

Taking the combined front and back neck measurements (10¼in), use a French curve to draw the neck shape from the center back neck point until it joins the line at the bottom of the rectangle, and mark. This is the center front. This measurement will fall short of the bottom right corner of the rectangle.

- The central panel is 2⅜in wide. Remove half of the measurement from the center back neck point and the other half from the top of the sleeve cap.
- From the top right corner measure down 4⅛in and square out 1in. Now draw the hood shape according to the design.
- Finally, to create the pattern for the central panel, measure the back hood line—here it is 20¼in.

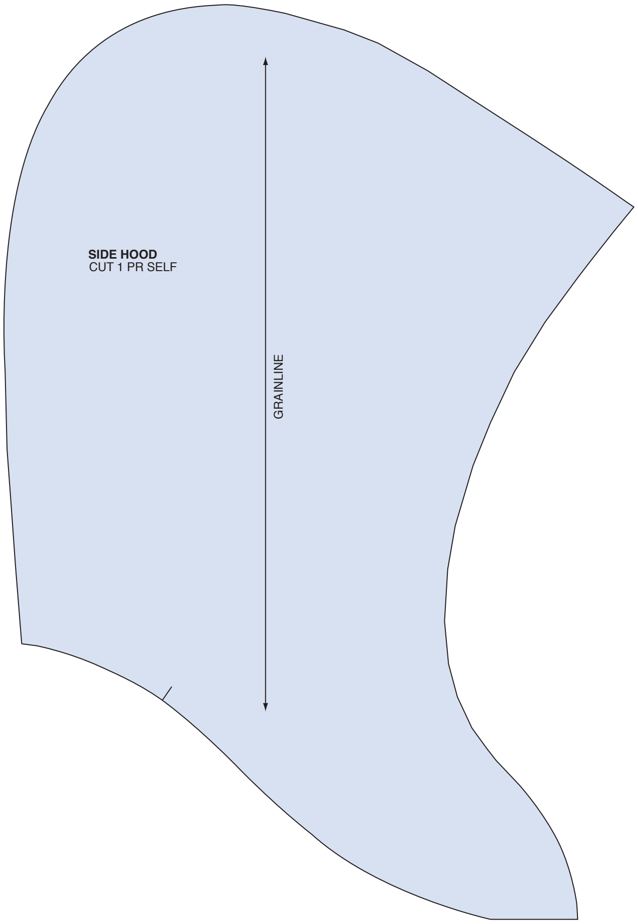
Design of the hood

This hood design has a central panel. The width of the panel needs to be deducted from the hood shape at the center back neck point and at the top of the sleeve cap. The overall shape of the hood is determined by the design, head size, neck opening, and usage, which in this case is as outerwear.


TOP OF SLEEVE CAP
1³⁄₁₆"
4⅛"
1"
BACK HOOD LINE
20¼"
HOOD MASTER PLAN
GRAINLINE
FRONT HOOD OPENING
BACK HOOD LINE
1³⁄₁₆"
CENTER BACK NECK POINT
3¾"
SHOULDER NOTCH
6½"
CENTER FRONT LINE

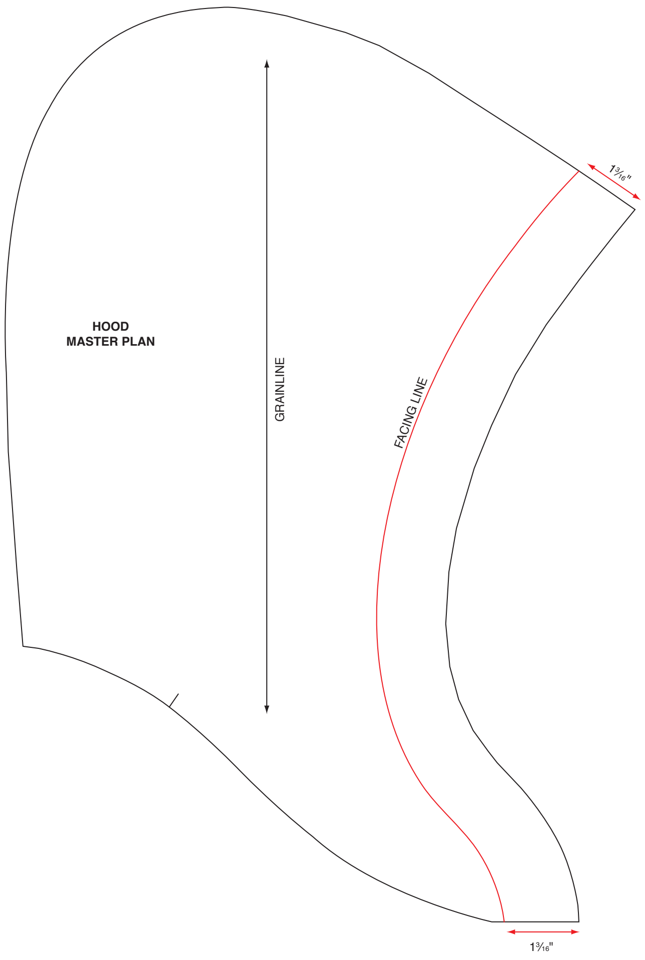
STEP 21
HOOD PATTERN

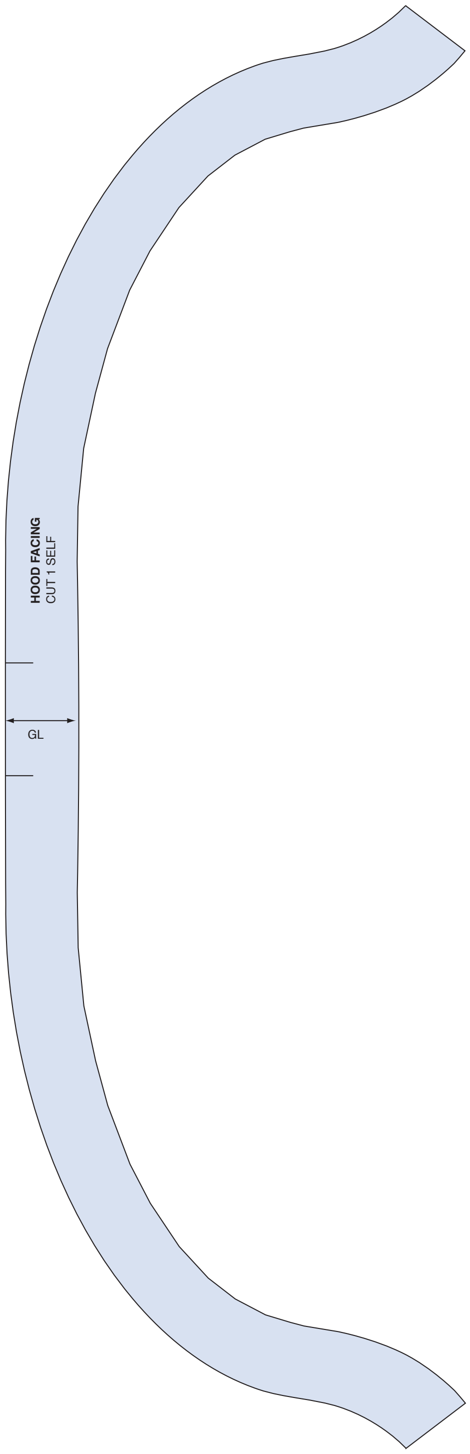
- Following the instructions on page 50, trace off the hood pattern.

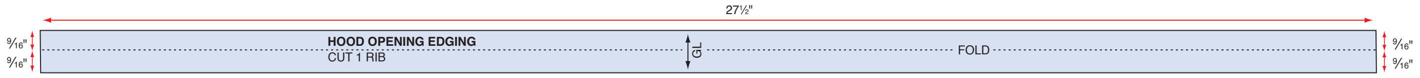

SIDE HOOD
CUT 1 PR SELF
GRAINLINE

STEP 22
HOOD OPENING FACING STRIP AND EDGING PATTERNS

- The hood opening facing is a strip of fabric, $1\frac{3}{16}$in in depth, that follows the curved shape of the hood opening. The edging finishes the hood opening.
- On the hood side panel pattern, measure in $1\frac{3}{16}$in at the neckline and mark and $1\frac{3}{16}$in at the top of the front hood opening and make a mark. Connect these points to create a curve $1\frac{3}{16}$in in depth along the opening.
- Trace off the hood opening facing strip onto a new piece of paper and, following the instructions on page 50, create the full pattern shape.
- With a tape measure held upright measure along the outer edge of the facing strip—in this case 27½in. Draw a rectangular box 27½in long by $1\frac{3}{16}$in wide and mark a fold line lengthways down the center to create the edging.

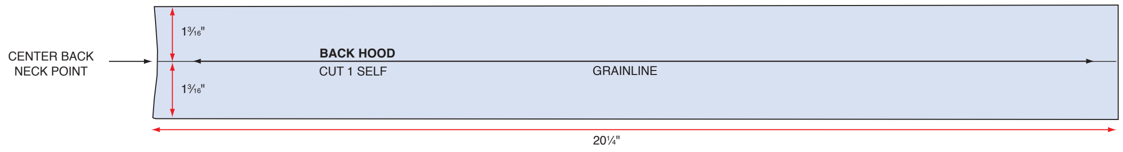

HOOD
MASTER PLAN
GRAINLINE
FACING LINE
1³⁄₁₆"
1³⁄₁₆"


HOOD FACING
CUT 1 SELF
GL


27½"
⁹⁄₁₆"
⁹⁄₁₆"
HOOD OPENING EDGING
CUT 1 RIB
GL
FOLD
⁹⁄₁₆"
⁹⁄₁₆"

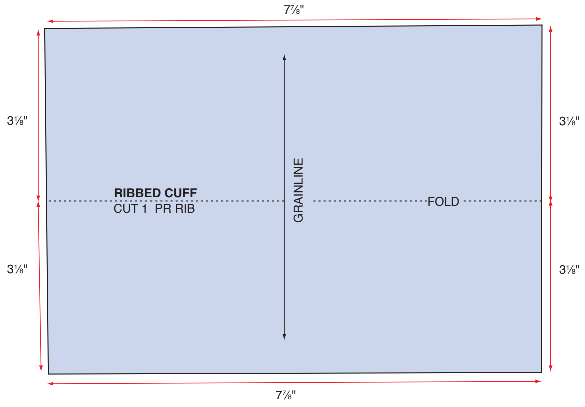
STEP 23
CENTER BACK HOOD PANEL PATTERN

- Draw a rectangular box 2⅜in wide by 20¼in long. This will become your final center back hood panel.


CENTER BACK
NECK POINT
1³⁄₁₆"
1³⁄₁₆"
BACK HOOD
CUT 1 SELF
GRAINLINE
20¼"

STEP 24
RIBBED CUFF PATTERN

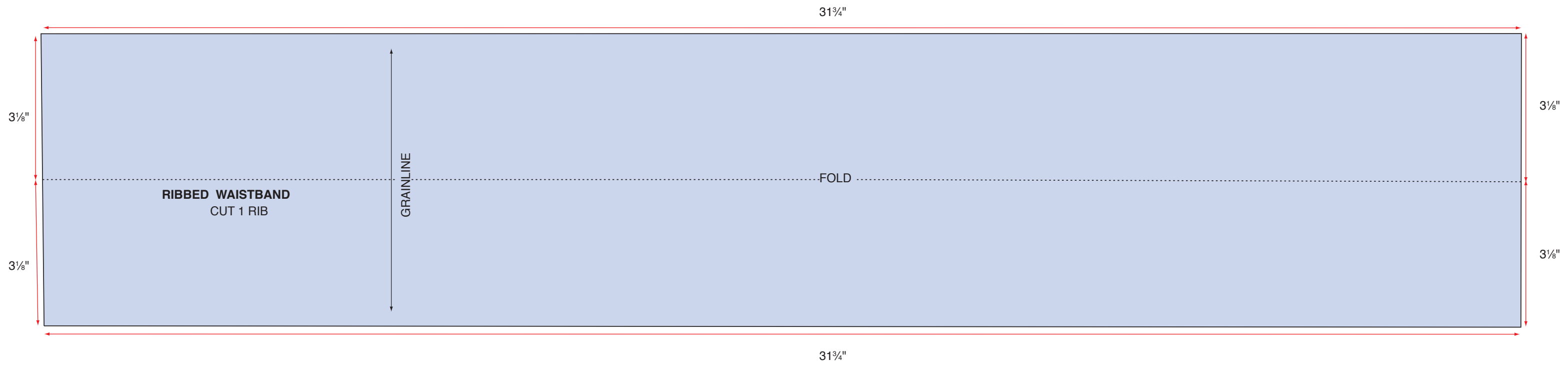
- The cuff is a folded pattern. Draw a rectangular box 6¼in wide and 7⅞in long. Mark the fold line halfway along the width.

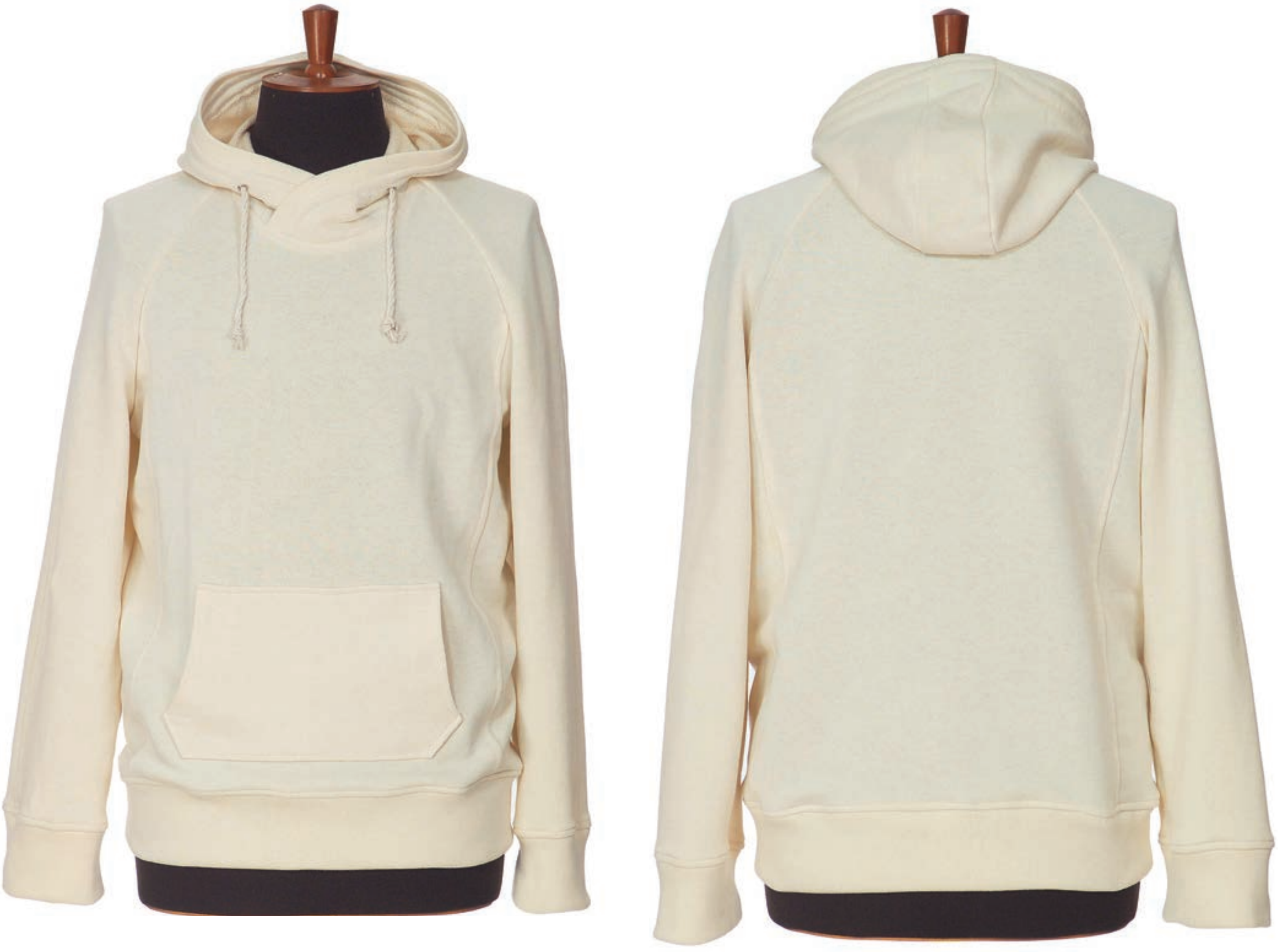

7⅞"
3⅛"
3⅛"
RIBBED CUFF
CUT 1 PR RIB
GRAINLINE
FOLD
3⅛"
3⅛"
7⅞"

STEP 25

RIBBED WAISTBAND PATTERN

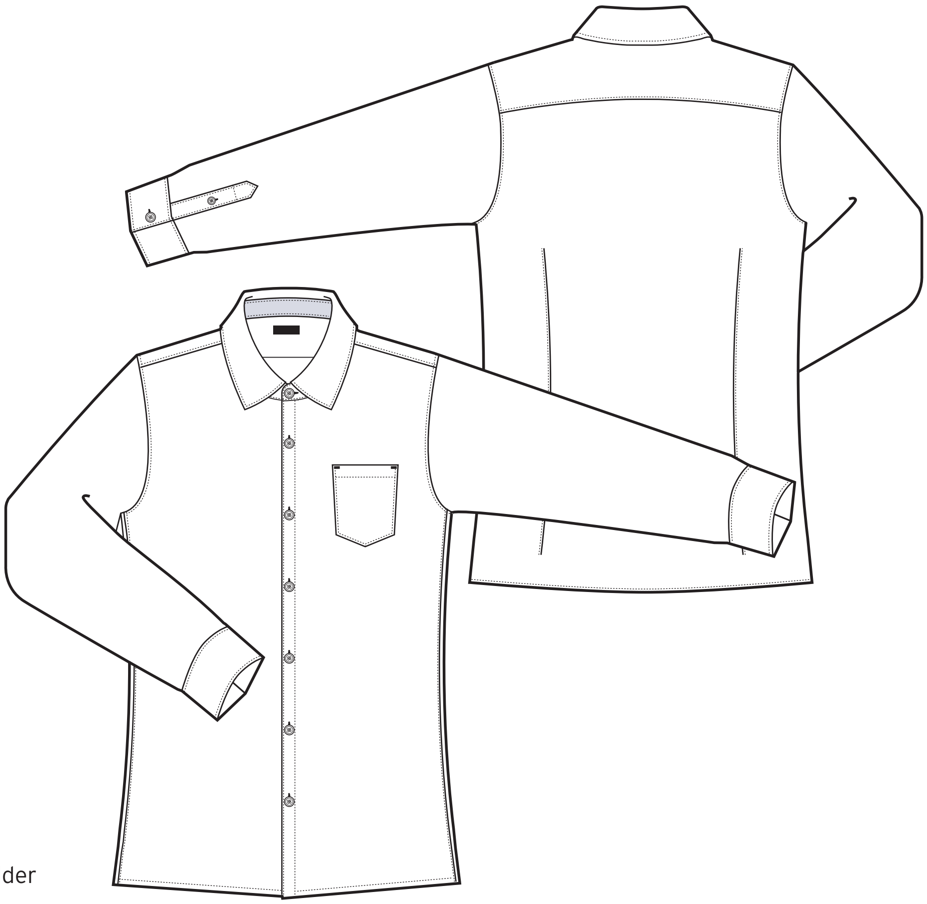
- The waistband is a folded pattern. Draw a rectangular box 6¼in wide and 35¾in long. Mark the fold line halfway along the width.


31¾"
3⅛"
3⅛"
GRAINLINE
FOLD
RIBBED WAISTBAND
CUT 1 RIB
3⅛"
3⅛"
31¾"



PATTERN

CASUAL LONG-SLEEVED SHIRT



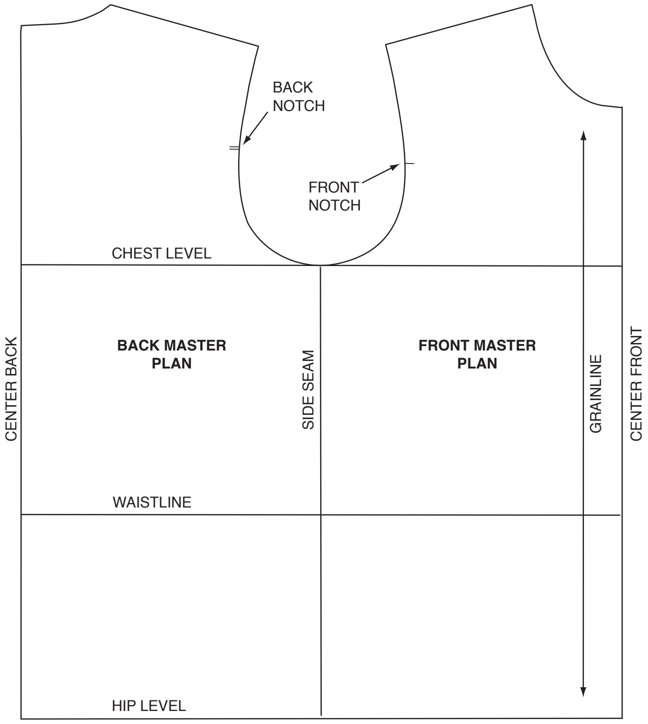
This pattern includes development of the following features:

Shaping the body
Creating a grown-on placket
Adding length to the body
Extending the shoulder, moving the shoulder seam, and enlarging the armhole
Creating a back yoke
Creating a breast pocket
Creating a two-piece collar
Lowering the armhole
Reducing the sleeve cap height
Developing a cuff with cuff guard

STEP 1

DEVELOPING THE MASTER PLAN

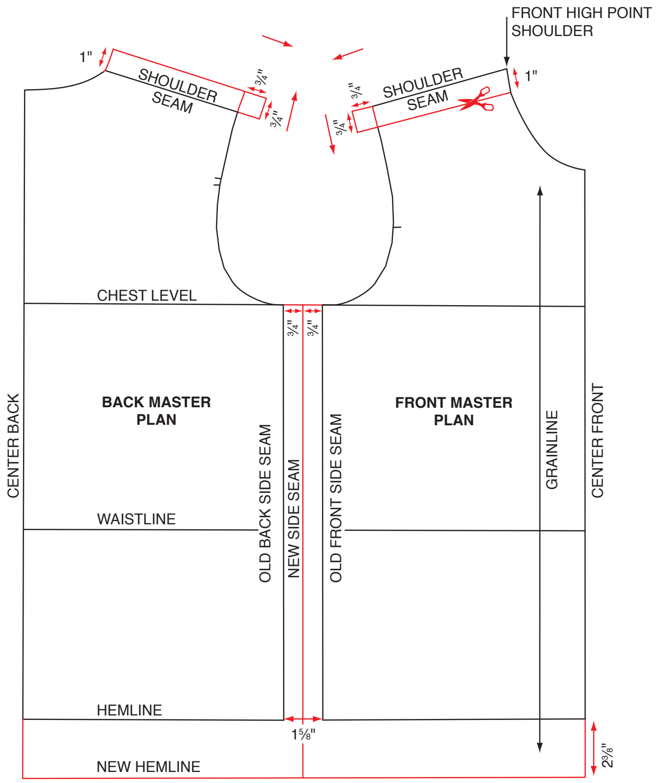
Start by selecting the basic men's upper body sloper, or by drafting the basic sloper according to the instructions on page 40. Cut a large piece of drafting paper slightly longer than the length of the shirt you want to develop and transfer the shape of the sloper and all marks, labels, and instructions, following the directions on page 48.


BACK NOTCH
FRONT NOTCH
CHEST LEVEL
CENTER BACK
BACK MASTER PLAN
SIDE SEAM
FRONT MASTER PLAN
GRAINLINE
CENTER FRONT
WAISTLINE
HIP LEVEL

STEP 2

DEVELOPING THE ENLARGED ARMHOLE, EXTENDING THE SHOULDER, MOVING THE SHOULDER SEAM, AND ADDING LENGTH AND WIDTH TO THE BODY

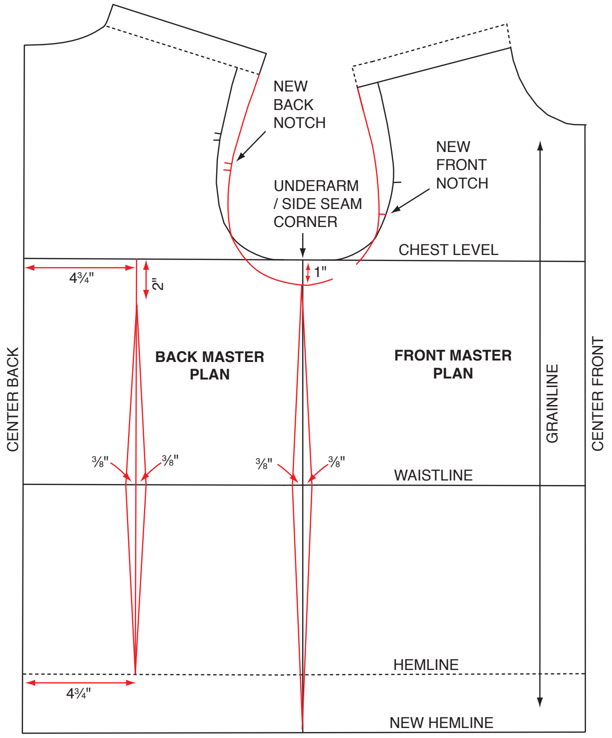
- To create the relaxed fit of this shirt style, add ¾in each to the front and back side seams. This will enlarge the armhole and give the shallower sleeve cap of an extended shoulder style. You will need to reposition the front and back upper body slopers to add 1⅝in at the side seams and redraw the master plan.
- From the front shoulder tip measure out ¾in over the armhole, square down ¾in, and mark. At the front high point shoulder measure 1in down the neckline and draw a new line across to meet the new mark at the armhole.
- Trace this shape onto a new piece of paper and cut it out. Add the shape to the top of the back shoulder seam and trace around it. This will create a shorter shoulder on the front and a longer shoulder on the back.
- Extend the center front and center back lines down 2⅜in from the hemline and square across to create a new hemline.


FRONT HIGH POINT SHOULDER
1"
SHOULDER SEAM
¾"
¾"
¾"
¾"
SHOULDER SEAM
1"
CHEST LEVEL
¾"
¾"
CENTER BACK
BACK MASTER PLAN
OLD BACK SIDE SEAM
NEW SIDE SEAM
OLD FRONT SIDE SEAM
FRONT MASTER PLAN
GRAINLINE
CENTER FRONT
WAISTLINE
HEMLINE
1⅝"
NEW HEMLINE
2⅜"

STEP 3

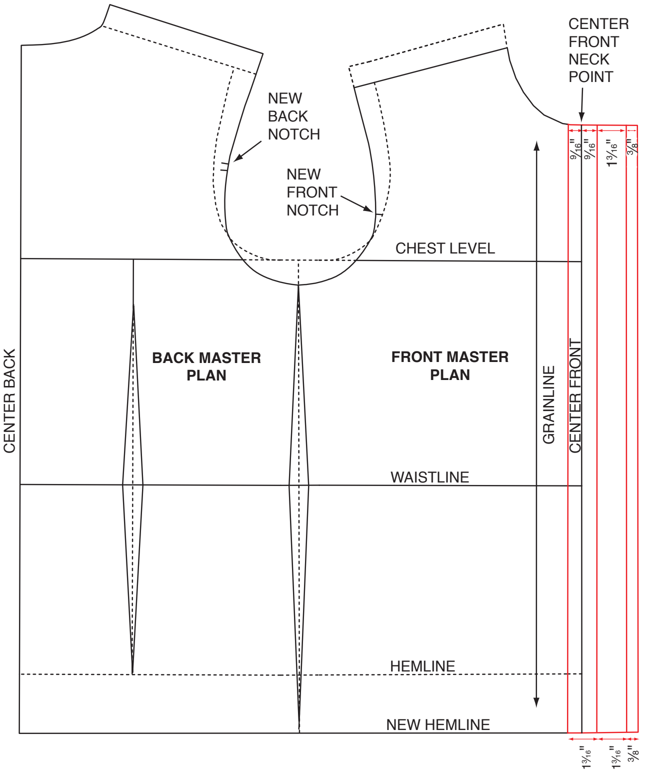
DEVELOPING THE NEW ARMHOLE AND BODY SHAPING

- Measure 1in down the new side seam and make a mark. From this point on the front and back master plans, using the basic upper body slopers as a template, trace the new lowered armhole shape, continuing it up to connect with the new shoulders. Transfer the back and front notches to their new positions on the lowered armhole.
- To develop the side seam, measure out ⅜in in both directions where the new side seam intersects the waistline.
- Connect both these points up to the new underarm / side seam corner and down to the new hemline at the bottom of the new side seam with straight lines.
- Create a side back dart by measuring 4¾in from the center back along the chest level and the original hemline. Draw a vertical line to connect these two points.
- Measure 2in down this new line from the chest level and mark. This point will be the starting point of the side back dart. Where the new line intersects the waistline, measure ⅜in out on both sides and mark. This will become the widest point of the dart. Draw in the dart legs, connecting all the above points and the end of the dart line at the original hemline.


NEW BACK NOTCH
NEW FRONT NOTCH
UNDERARM / SIDE SEAM CORNER
CHEST LEVEL
4¾"
2"
1"
CENTER BACK
BACK MASTER PLAN
FRONT MASTER PLAN
GRAINLINE
CENTER FRONT
⅜"
⅜"
⅜"
⅜"
WAISTLINE
HEMLINE
4¾"
NEW HEMLINE

STEP 4
DEVELOPING THE GROWN-ON PLACKET

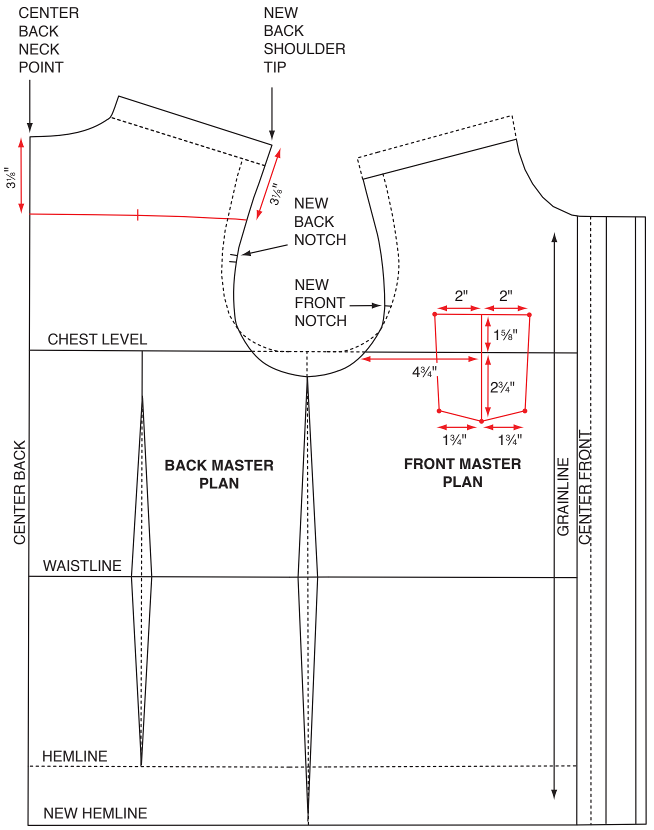
- The placket width in this style is 1³⁄₁₆in and is centered over the center front line. Measure ⁹⁄₁₆in out from the center front neck point and mark, and back ⁹⁄₁₆in along the neckline and mark. Repeat at the hemline and connect all four marks to make a rectangle.
- Add another rectangular placket shape, 1³⁄₁₆in wide, to the front of the first rectangle, and then add a further ³⁄₈in seam allowance.
- The overall measurement of the placket excluding the seam allowance is now 2³⁄₈in.



CENTER FRONT NECK POINT
NEW BACK NOTCH
NEW FRONT NOTCH
CHEST LEVEL
CENTER BACK
BACK MASTER PLAN
FRONT MASTER PLAN
GRAINLINE
CENTER FRONT
WAISTLINE
HEMLINE
NEW HEMLINE
9⁄16"
9⁄16"
13⁄16"
3⁄8"
13⁄16"
13⁄16"
3⁄8"

STEP 5
DEVELOPING THE BACK YOKE AND FRONT BREAST POCKET

- To create the back yoke measure 3¹⁄₈in down the center back from the center back neck point and mark. Measure 3¹⁄₈in from the new back shoulder tip down the armhole and mark. Connect these two points with a straight line.
- From the front armhole measure 4³⁄₄in in along the chest level and mark. At this point square up 1⁵⁄₈in and down 2³⁄₄in and draw a vertical line. At the top of the line square out 2in on each side and mark. These points will become the pocket corners.
- Measure up ³⁄₈in from the bottom of the vertical line and square out 1³⁄₄in to either side and mark. Join these points back to the bottom of the vertical line with straight lines. Connect these points back up to the pocket corners to create the final pocket shape.



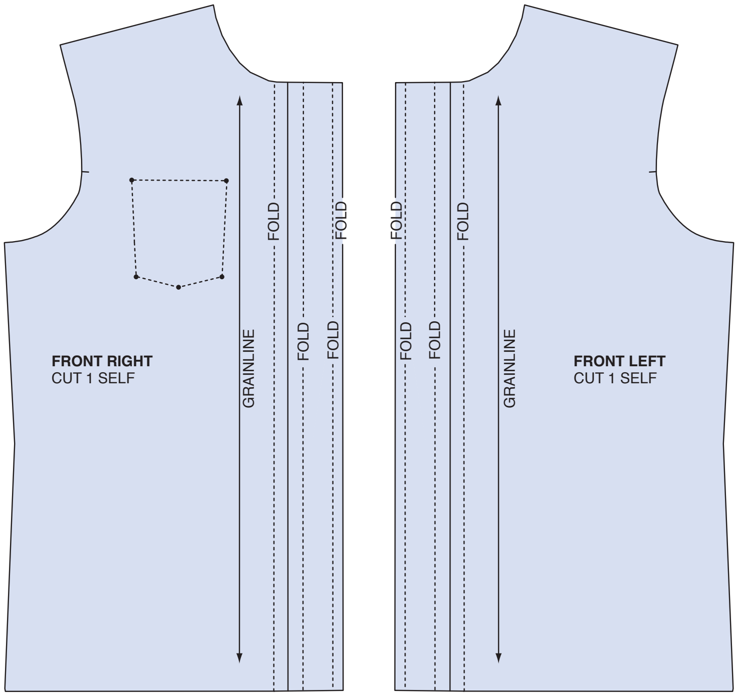
CENTER BACK NECK POINT
NEW BACK SHOULDER TIP
3⅛"
3⅛"
NEW BACK NOTCH
NEW FRONT NOTCH
2"
2"
1⅝"
4¾"
2¾"
1¾"
1¾"
CHEST LEVEL
CENTER BACK
BACK MASTER PLAN
FRONT MASTER PLAN
GRAINLINE
CENTER FRONT
WAISTLINE
HEMLINE
NEW HEMLINE

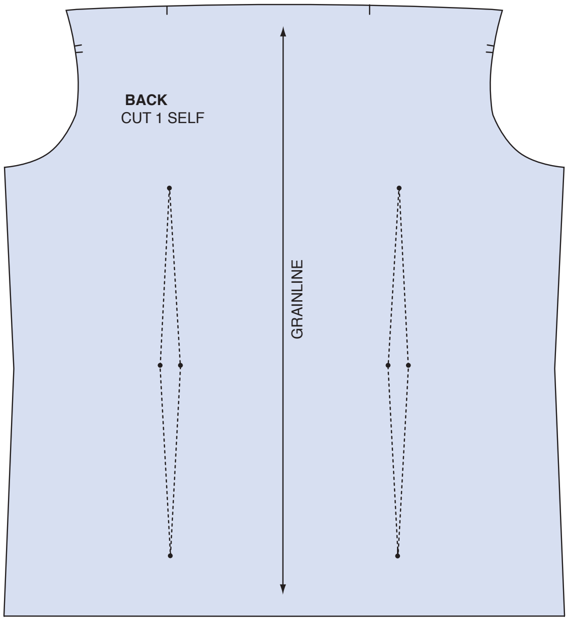
STEP 6
FRONT PATTERN

- Following the instructions on page 50, trace off the front pattern, indicating the breast pocket position on the right front panel with drill holes at the corners.

STEP 7
BACK PATTERN

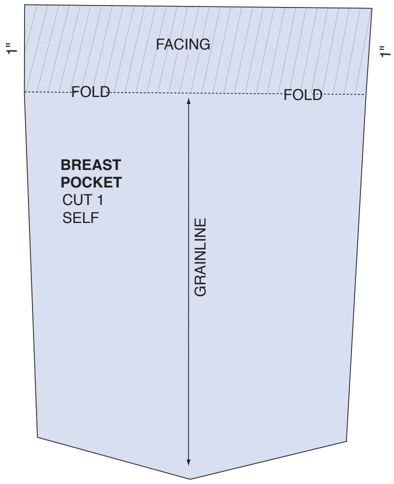
- Trace off the back onto a new piece of paper and, following the instructions on page 50, create the full pattern shape.


FOLD
FOLD
FOLD
FOLD
FOLD
FOLD
FOLD
FOLD
GRAINLINE
GRAINLINE
FRONT RIGHT
CUT 1 SELF
FRONT LEFT
CUT 1 SELF


BACK
CUT 1 SELF
GRAINLINE

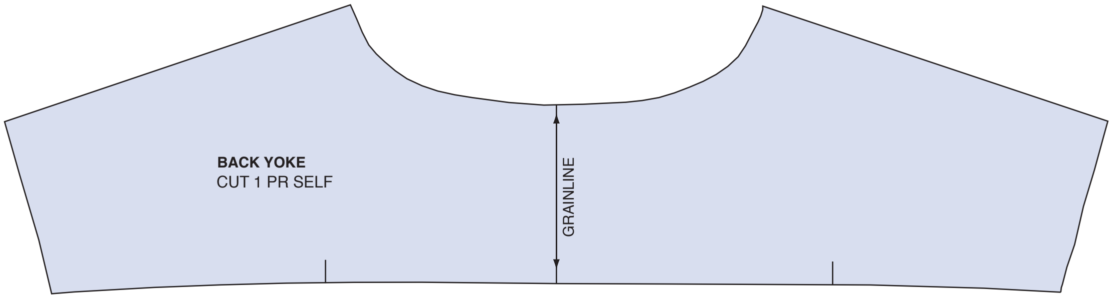
STEP 8
BREAST POCKET PATTERN

- Following the instructions on page 50, trace off the breast pocket pattern, adding a 1in facing to the top.


1"
FACING
1"
FOLD
FOLD
BREAST
POCKET
CUT 1
SELF
GRAINLINE

STEP 9
BACK YOKE PATTERN

- Trace the back yoke onto a new piece of paper and, following the instructions of page 50, create the full pattern shape.


BACK YOKE
CUT 1 PR SELF
GRAINLINE

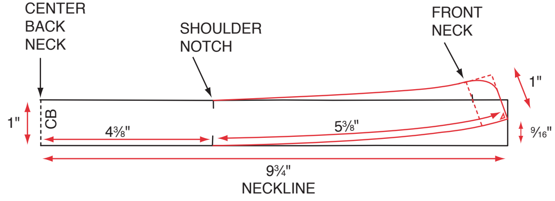
STEP 10
DEVELOPING THE COLLAR STAND

Measuring half the neck from the master plan

We will develop half the collar stand before creating the full collar stand. By taking measurements from the master plan, which is drawn in half, you will be measuring half of the neck measurement.

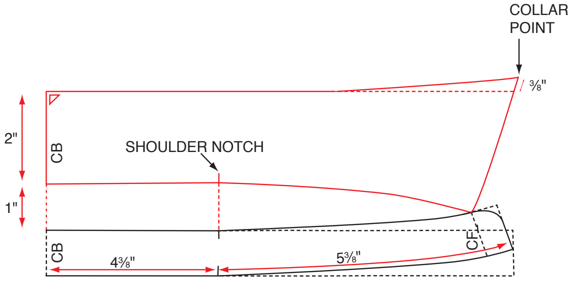
- On the master plan measure the length of the back neck, in this case 4⅜in, and the front neck from the shoulder tip down past the center front line to the point at which the placket finishes, in this case 5⅜in.
- Add these two measurements together to give half the neck measurement, in this case 9¾in.

- On a new piece of piece of paper, draw a rectangle measuring 9¾in by 1in, which is the half neck measurement by the width of the collar stand. Label the narrow side as the *center back neck* and the long side as the *neckline*.
- From the center back neck, measure 4⅜in (the half back neck measurement) along the bottom line of the rectangle and place a notch. Label it the *shoulder notch*. Do the same 4⅜in along the top line of the rectangle.
- Measure up 9⁄16in at the front edge of the rectangle and join this point back to the lower shoulder notch with a slight curve.
- From the shoulder notch, measure 5⅜in (the half front neck measurement) along this curved line. At the front of the curved line, square up 1in (the width of the collar stand). Then draw another curved line to connect this line back to the top shoulder notch.



STEP 11
DEVELOPING THE TOP COLLAR

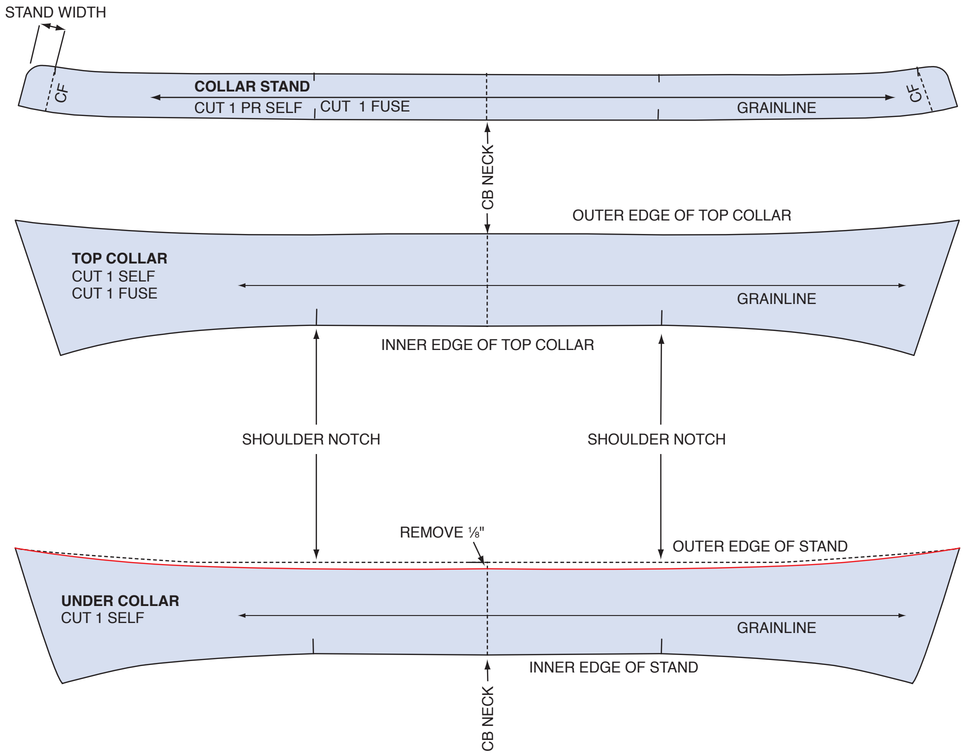
- Trace off the stand shape from Step 10 onto another piece of paper.
- Continue the center back line vertically up 3in from the top of the stand, square across 9½in, and make a mark. This is the collar point. Connect this point back down to the center front neck with a straight line. You have now created the basic top collar shape.
- At the collar point extend the front edge of the collar out and up by ⅜in and draw a curved line back to meet the outer edge. This will give the collar a smoother shape.
- Measure up 1in from the top of the stand along the center back and make a mark. From here, square across to a point above the shoulder notch. From this point draw a curved line to meet the center front neck, mirroring the curve of the stand. This is the inner edge of the 2in-wide top collar shape.



STEP 12

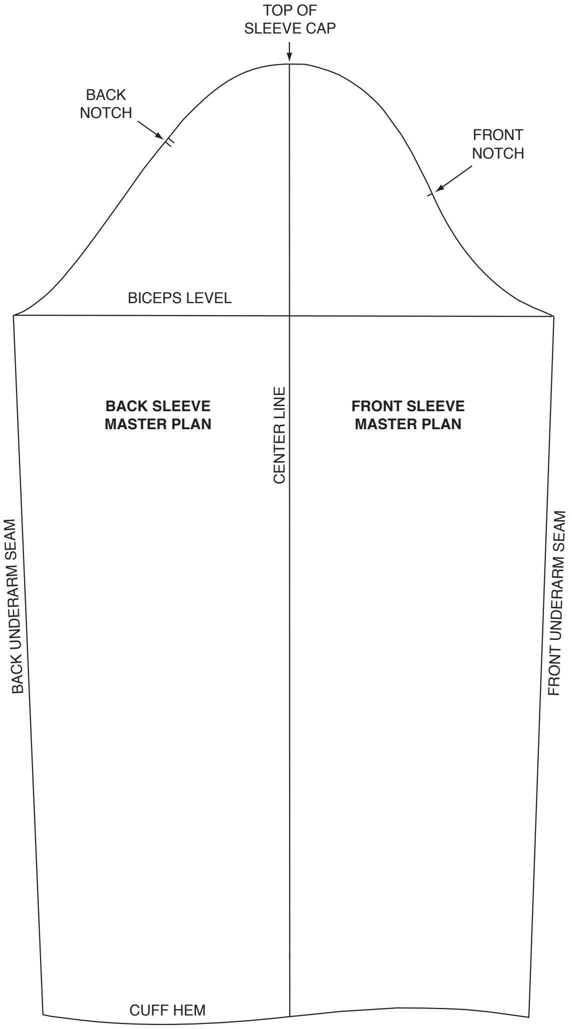
TOP COLLAR PATTERN
COLLAR STAND PATTERN
UNDER COLLAR PATTERN

- Trace off the collar stand pattern and, following the instructions on page 50, create the full pattern shape.
- Trace off the top collar pattern and, following the instructions on page 50, create the full pattern shape.
- The under collar is a copy of the top collar reduced by ⅛in at the center back neck, which is blended back with a line to both collar points; this reduction, when sewn, will pull the seam edge under the collar slightly so as not to be seen. Make a separate pattern for the under collar.


STAND WIDTH
CF
COLLAR STAND
CUT 1 PR SELF
CUT 1 FUSE
GRAINLINE
CF
CB NECK
OUTER EDGE OF TOP COLLAR
TOP COLLAR
CUT 1 SELF
CUT 1 FUSE
GRAINLINE
INNER EDGE OF TOP COLLAR
SHOULDER NOTCH
SHOULDER NOTCH
REMOVE ⅛"
OUTER EDGE OF STAND
UNDER COLLAR
CUT 1 SELF
GRAINLINE
INNER EDGE OF STAND
CB NECK

STEP 13
DEVELOPING THE SLEEVE MASTER PLAN

- Start this development by selecting the basic men's sleeve sloper, or by drafting the basic sleeve sloper according to the instructions on page 42. Cut a large piece of drafting paper slightly longer than the length of the sleeve you want to develop and transfer the shape of the sloper and all marks, labels, and instructions, following the directions on page 50. The design illustrated is shaped and has a gathered tuck on the back of the sleeve for even more shaping.


TOP OF SLEEVE CAP
BACK NOTCH
FRONT NOTCH
BICEPS LEVEL
BACK SLEEVE MASTER PLAN
CENTER LINE
FRONT SLEEVE MASTER PLAN
BACK UNDERARM SEAM
FRONT UNDERARM SEAM
CUFF HEM

Measurements for developing the sleeve

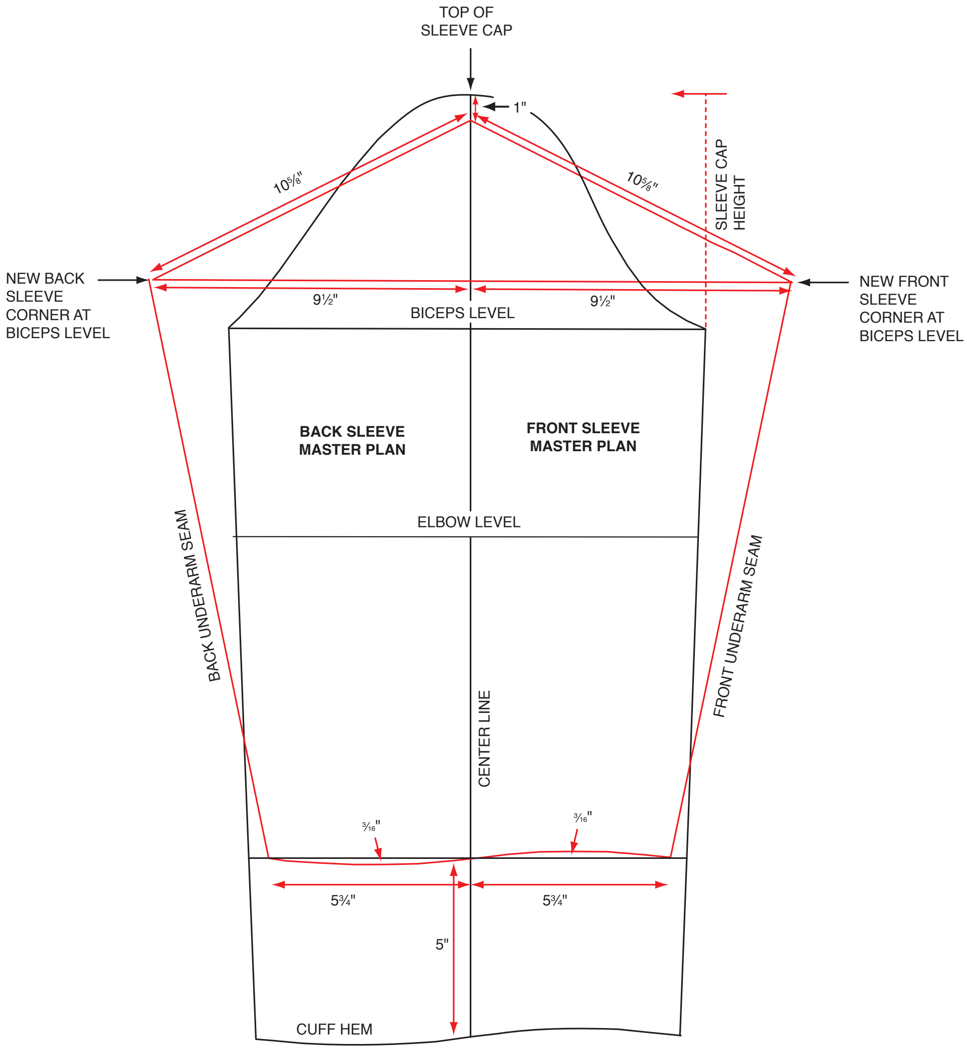
You will need three measurements here:

1. Half the armhole measurement—measure the new armhole on the front and back patterns. In this case the front armhole is 10 1/4in and the back 11in. Add these measurements together (21 1/4in) and divide in half, making 10 5/8in.
2. Half the biceps measurement—measure the biceps width from the master plan. In this case it is 14in. As this is a casual-fitting shirt you can determine the amount of ease according to the design. In this case we will add 5in ease to the biceps measurement, making 19in. Divide this measurement in half, making 9 1/2in.
3. The cuff measurement, which in this case is 9 1/2in (the wrist measurement), plus a 2in tuck, making 11 1/2in.

STEP 14

DEVELOPING THE SLEEVE WITH A REDUCED SLEEVE CAP HEIGHT AND SHAPING THE CUFF HEMLINE

- Measure 1in down the center line from the top of the sleeve cap to reduce the height of the sleeve cap by the same amount that you lowered the armhole in Step 3.
- At an angle from the new top of the sleeve cap, draw out a line measuring half the new armhole—10⅝in. From the center line, draw out a line measuring half the new biceps measurement—9½in. Adjust these lines until they meet to form a triangle and repeat on the other side of the sleeve. This will become the frame around which you construct the new shortened sleeve cap.
- From the cuff hemline measure 5in up the center line and square out 5¾in on both sides (the wrist measurement plus 2in for the tuck) and mark. To create the shaping at the bottom of the sleeve, measure down 3⁄16in on the back sleeve from the center of the new cuff hemline and mark this point. On the front sleeve, measure up 3⁄16in from the center of the new cuff hemline and mark this point. Join the points with a curved line that is convex on the back sleeve and then reverses at the center line so that it is concave on the front.
- Now draw in the new underarm seam lines from either end of the new cuff hemline to the new corners of the sleeve at biceps level to create the sleeve shape.

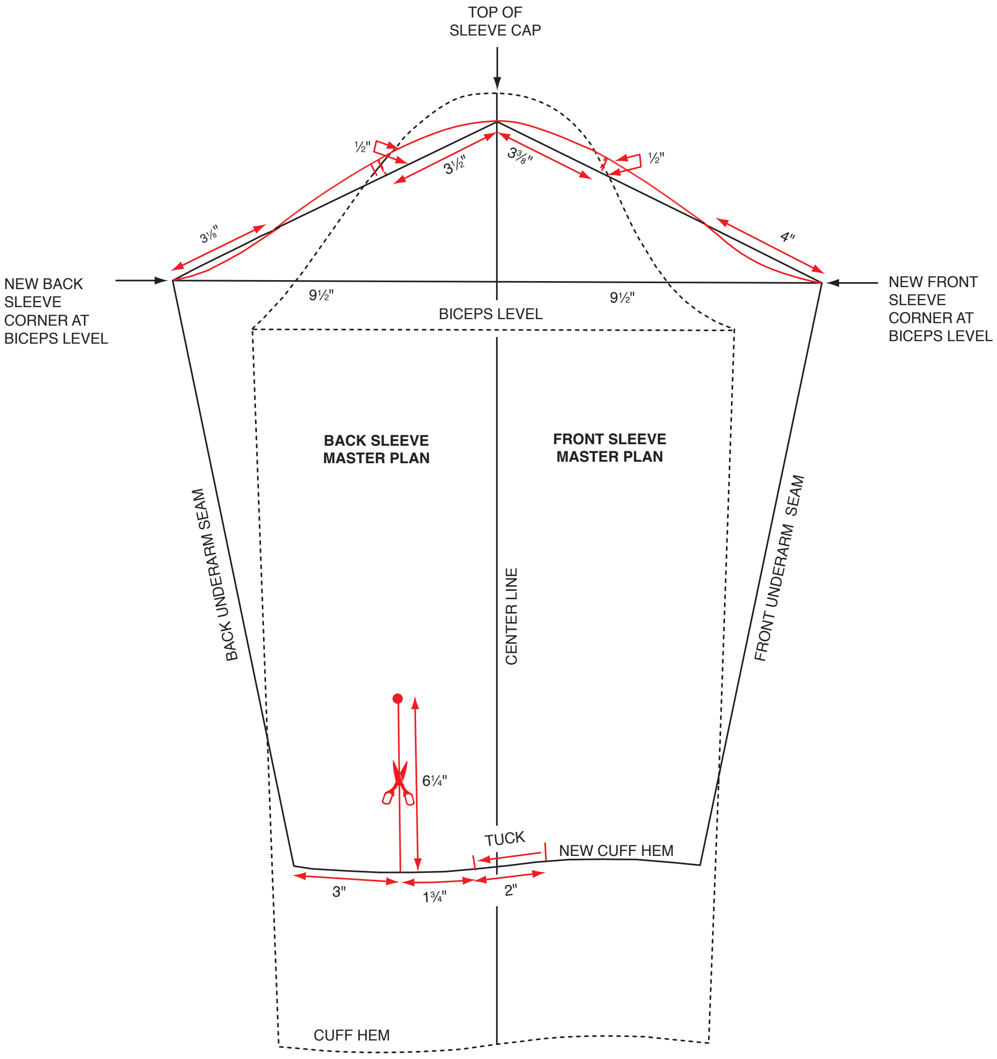


TOP OF SLEEVE CAP
1"
10⅝"
10⅝"
SLEEVE CAP HEIGHT
NEW BACK SLEEVE CORNER AT BICEPS LEVEL
NEW FRONT SLEEVE CORNER AT BICEPS LEVEL
9½"
9½"
BICEPS LEVEL
BACK SLEEVE MASTER PLAN
FRONT SLEEVE MASTER PLAN
ELBOW LEVEL
BACK UNDERARM SEAM
FRONT UNDERARM SEAM
CENTER LINE
3⁄16"
3⁄16"
5¾"
5¾"
5"
CUFF HEM

STEP 15

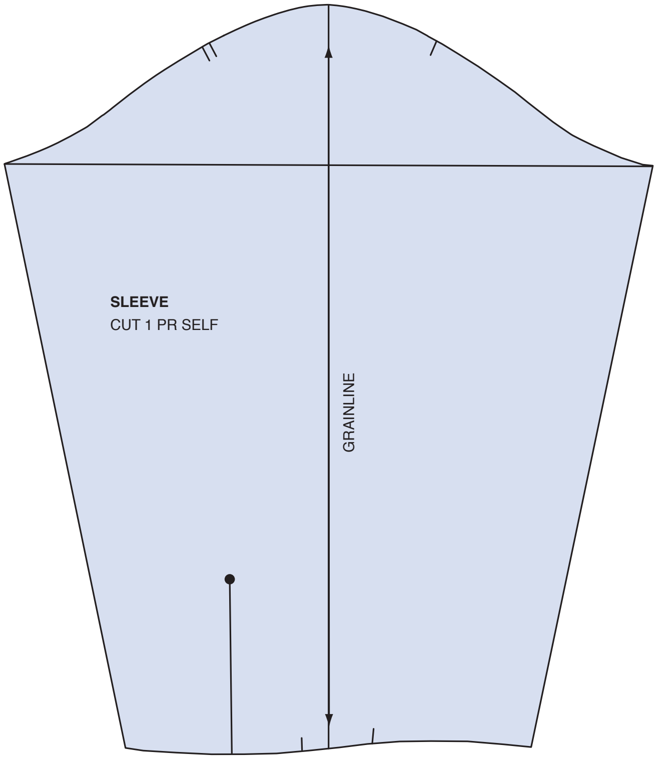
DEVELOPING THE NEW SLEEVE SHAPE

- Add shape to the sleeve cap by measuring 3⅜in from the new top of the sleeve cap along the diagonal line toward the new front corner of the sleeve at biceps level, square out ½in, and mark. Then from the front corner of the sleeve at biceps level measure 4in up along the diagonal and mark. On the back measure down 3½in on the diagonal, square out ½in and mark; measure 3⅛in up from the back corner of the sleeve at biceps level and mark.
- Using a French curve, draw in shallow raised curves from the new top of the sleeve cap through the marks on the upper portion of the sleeve cap, reversing the curves at the marks on the lower portion of the sleeve cap, and finishing these hollow curved lines at the corners of the sleeve at biceps level. To add in the notches, first measure the distance on the front and back body panels between the corners of the sleeve at biceps level and the notches around the armhole. Then transcribe the measurements to the sleeve cap, measuring from the sleeve corners toward the cap.
- From the back underarm seam line measure in 3in along the new cuff hemline and square up 6¼in. This is the cut line for the cuff guard. From the bottom of the cuff guard line, continue to measure 1¾in and mark, and a further 2in and mark. This will become the tuck.


TOP OF SLEEVE CAP
½"
3½"
3⅜"
½"
3⅛"
4"
NEW BACK SLEEVE CORNER AT BICEPS LEVEL
NEW FRONT SLEEVE CORNER AT BICEPS LEVEL
9½"
9½"
BICEPS LEVEL
BACK SLEEVE MASTER PLAN
FRONT SLEEVE MASTER PLAN
BACK UNDERARM SEAM
CENTER LINE
FRONT UNDERARM SEAM
6¼"
TUCK
NEW CUFF HEM
3"
1¾"
2"
CUFF HEM

STEP 16
SLEEVE PATTERN

- Following the instructions on page 50, trace off the sleeve pattern, indicating the top of the cuff opening position with a drill hole.

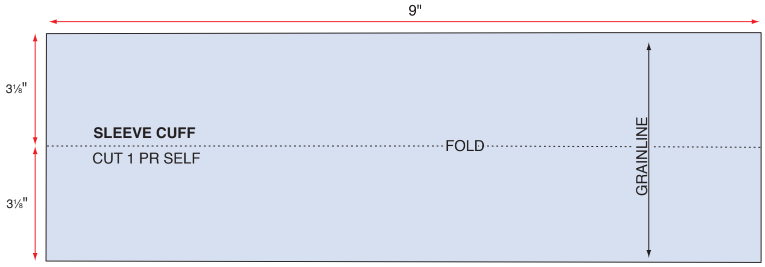


STEP 17
DEVELOPING THE CUFF

Measuring the cuff

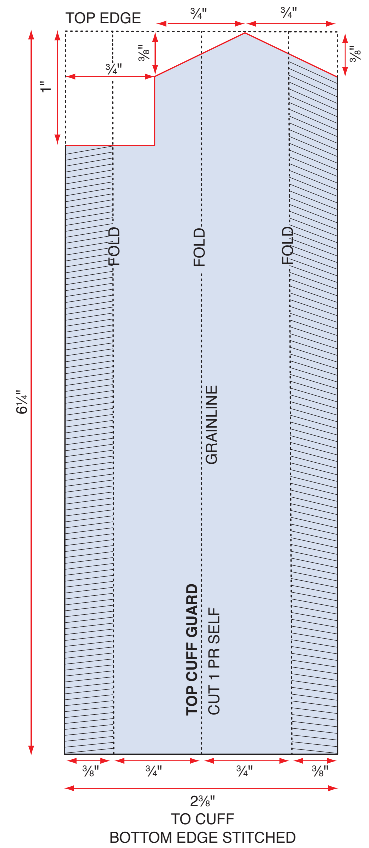
The cuff is a double pattern piece that is sewn onto the end of the sleeve and turned inside out. The cuff shape will start and finish at the guard opening. Measure this width from the pattern, in this case 11⅜in, and subtract 2in for the tuck and ⅜in for the seam allowance (3/16in on either side) on the cuff guard opening, making 9in.

- On a separate piece of paper, draw a box 9in long by 6¼in wide to create a rectangular-shaped cuff.
- Divide the box in half lengthways, draw a line across the center, and label it *fold*.



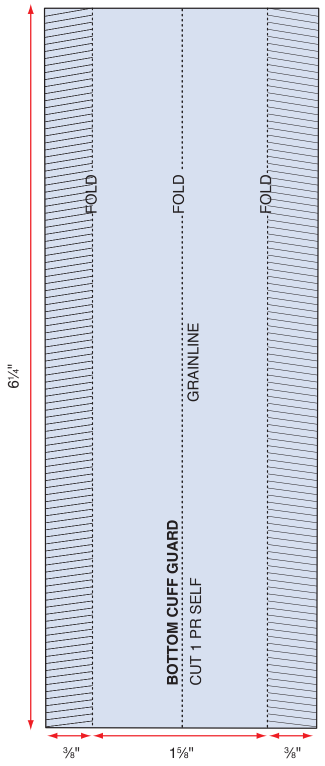
STEP 18
DEVELOPING THE TOP CUFF GUARD

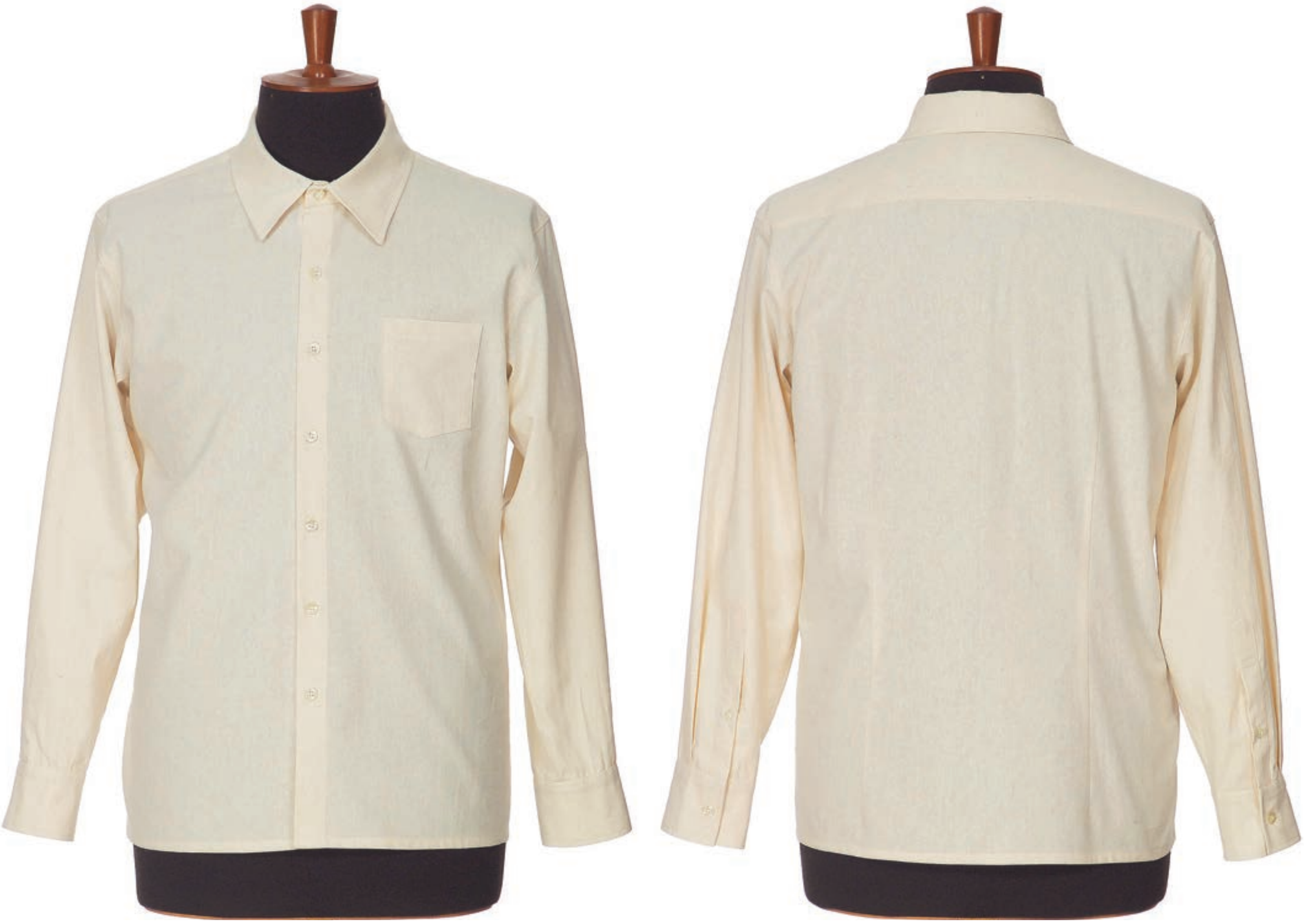
- On a separate piece of paper, create a rectangular box 6¼in long by 2⅜in wide.
- Divide the box in half lengthways, draw a line down the center, and label it *fold*.
- At each end square out ¾in up and ¾in down from the fold line and mark. Join these points with straight lines. This will leave you with a ⅜in seam allowance on each long side.
- From the top left corner measure 1in along the long side of the rectangle and square across ¾in. This small rectangular shape will be removed from the pattern.
- From the bottom right corner measure ⅜in down the long side of the rectangle and mark, and measure ¾in in on the short side and mark. Join these points with an angled line.
- Now measure ⅜in in along the top edge of the rectangle you drew in the top left corner and join this point to the top of the first angled line to give a pointed shape to the top of the cuff guard.


TOP EDGE
¾"
¾"
⅜"
¾"
⅜"
1"
6¼"
FOLD
FOLD
FOLD
GRAINLINE
TOP CUFF GUARD
CUT 1 PR SELF
⅜"
¾"
¾"
⅜"
2⅜"
TO CUFF
BOTTOM EDGE STITCHED

STEP 19
DEVELOPING THE BOTTOM CUFF GUARD

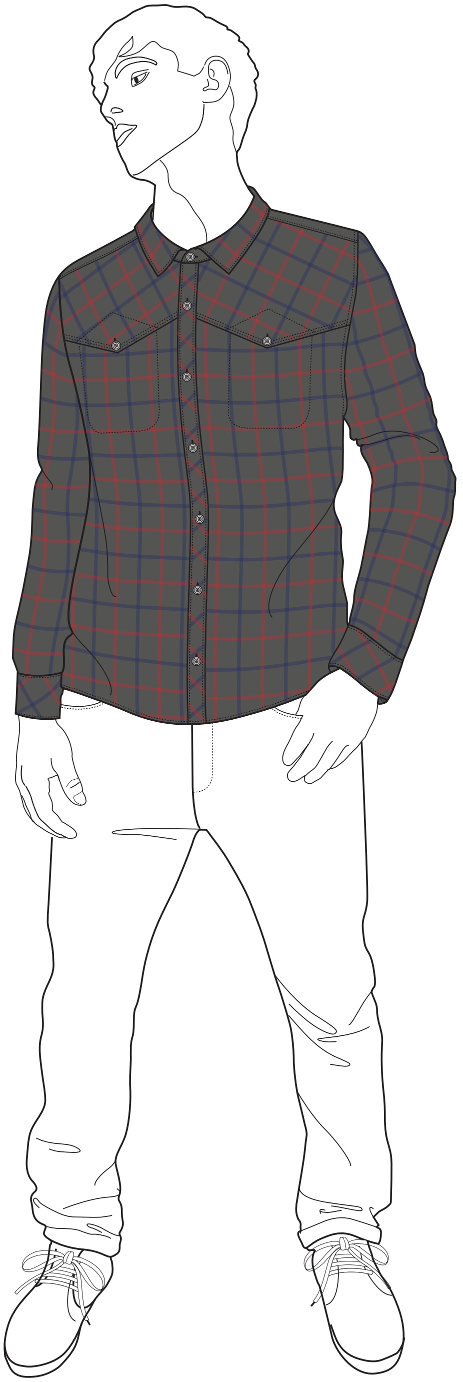
- Create a rectangular box 6¼in by 2⅜in.
- Divide the box in half lengthways, draw a line down the center, and label it *fold*.
- At each end square out ¾in from the fold line and mark on both sides. Join these points with straight lines. This will leave you with a ⅜in seam allowance on each long side.

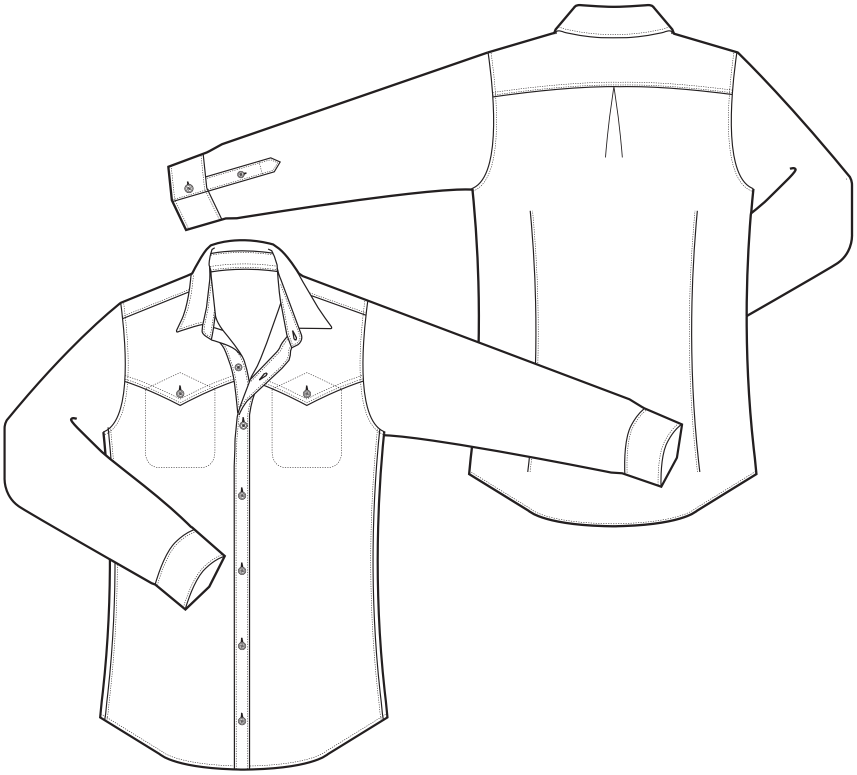

6¼"
FOLD
FOLD
FOLD
GRAINLINE
BOTTOM CUFF GUARD
CUT 1 PR SELF
⅜"
1⅝"
⅜"



PATTERN

LUMBERJACK SHIRT





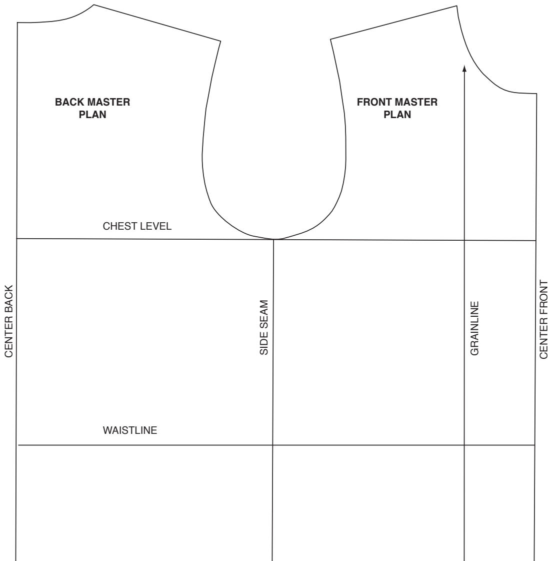
This pattern includes development of the following features:

Shaping the body
Creating a sewn-on placket
Adding length to the body
Creating a baseball hemline
Creating a classic Western-style front yoke shape that doubles up as pocket flaps to the internally sewn pocket bag
Creating a back yoke with center back pleat
Creating a two-piece collar
Creating a set-in sleeve
Developing a cuff with cuff guard

STEP 1

DEVELOPING THE MASTER PLAN

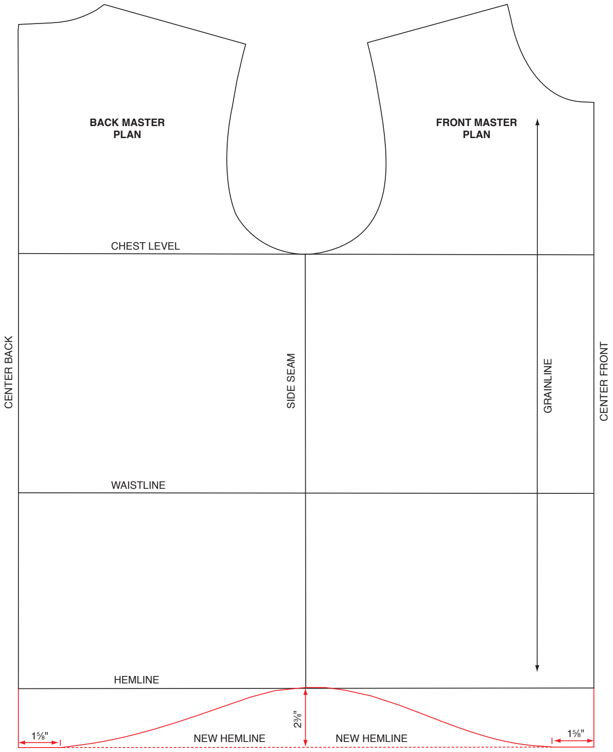
Start by selecting the basic men's upper body sloper, or by drafting the basic sloper according to the instructions on page 40. Cut a large piece of drafting paper slightly longer than the length of the shirt you want to develop and transfer the shape of the sloper and all marks, labels, and instructions, following the directions on page 48.


BACK MASTER PLAN
FRONT MASTER PLAN
CHEST LEVEL
CENTER BACK
SIDE SEAM
GRAINLINE
CENTER FRONT
WAISTLINE
HIP LEVEL

STEP 2

LENGTHENING THE BODY AND DEVELOPING THE BASEBALL HEMLINE

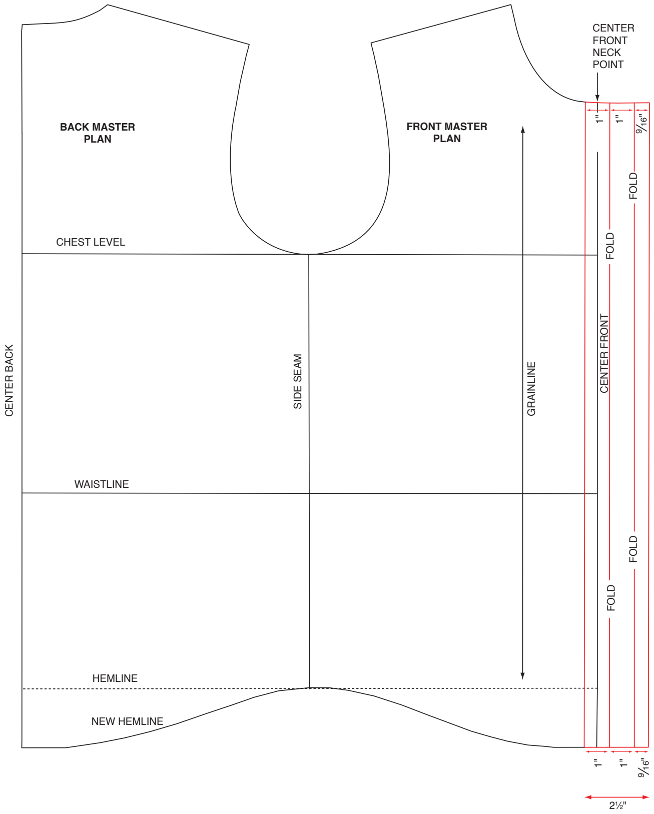
- Extend the center front, side seam, and the center back lines down 2³⁄₈in from the original hemline.
- Join these three points with a straight horizontal line to create a new hemline.
- On this new hemline measure in 1⁵⁄₈in from the center back and the center front.
- From these points draw graduated curves up to meet the end of the side seam on the original hemline. You have now created a generic baseball hemline.


BACK MASTER PLAN
FRONT MASTER PLAN
CHEST LEVEL
CENTER BACK
SIDE SEAM
GRAINLINE
CENTER FRONT
WAISTLINE
HEMLINE
2⅜"
1⅝"
NEW HEMLINE
NEW HEMLINE
1⅝"

STEP 3

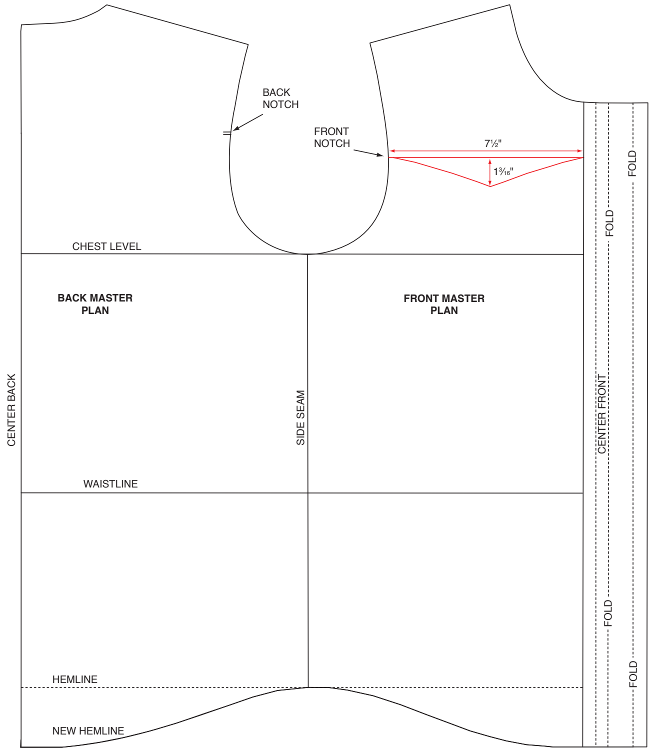
DEVELOPING THE SEWN-ON PLACKET

- The placket width is 1in and is drafted over the center front as a template to be traced off and attached later.
- From the center front neck point measure back ¹⁄₂in along the neckline and mark, and measure out ¹⁄₂in and mark; repeat this at the new hemline and connect these points with straight lines and label the outer one *fold*.
- From the outer line measure out another 1in at the neckline for the placket width and mark; repeat at the hemline. Measure out another ⁹⁄₁₆in to create the seam allowance; repeat at the hemline. Again, join these points and label the first line *fold*.
- The overall measurement of the placket is now 2¹⁄₂in, including the seam allowance.


CENTER FRONT NECK POINT
BACK MASTER PLAN
FRONT MASTER PLAN
1"
1"
9⁄16"
FOLD
CHEST LEVEL
FOLD
CENTER FRONT
CENTER BACK
SIDE SEAM
GRAINLINE
WAISTLINE
FOLD
FOLD
HEMLINE
NEW HEMLINE
1"
1"
9⁄16"
2½"

STEP 4
DEVELOPING THE FRONT YOKE SHAPE

- From the front notch on the armhole square across to meet the new placket shape.
- Measure between the front notch and the placket, in this case 7½in.
- Divide this measurement in half, in this case 3¾in, and at this new point square down 1³⁄₁₆in and mark. This will be the apex of the curve on the Western-style front yoke.
- Draw a curved line from the front notch to the point at the apex of the curve, followed by another curved line to the point at the other end of the horizontal line you drew to the placket line.

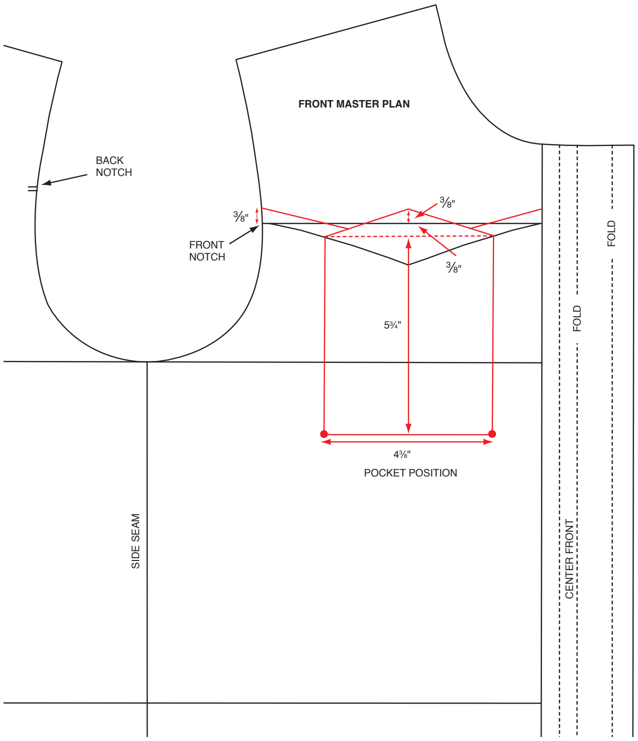

BACK NOTCH
FRONT NOTCH
7½"
1³⁄₁₆"
FOLD
FOLD
CHEST LEVEL
BACK MASTER PLAN
FRONT MASTER PLAN
CENTER BACK
SIDE SEAM
CENTER FRONT
WAISTLINE
FOLD
FOLD
HEMLINE
NEW HEMLINE

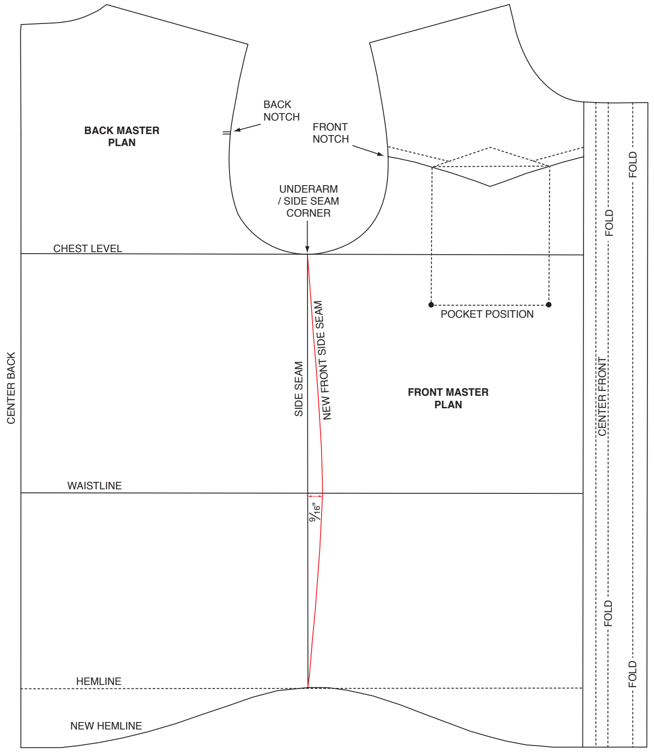
STEP 5
DEVELOPING THE BREAST POCKET AND FLAP

Pocket size

Pocket widths generally reflect the width of a human hand or a group of fingers. The depth can depend on your design ethos or the depth of a hand from fingertip to wrist.

- To make a pocket 4⅜in wide, measure ⅜in down from center of the pitch line you drew and square out 2⅛in either side. Each end of this horizontal line should intersect the curved line of the yoke to create a triangular shape. Mirror this shape above to create a diamond shape, the apex of which sits ⅜in above the horizontal pitch line. Add a ⅜in-wide facing strip that follows the curve of the yoke from both sides of the diamond shape. This shape will become the concealed pocket flap described in Step 11 below.
- In this example the pocket depth is 5¾in measured from the middle of the diamond shape. Draw vertical lines from each point where the pocket intersects the curve of the yoke to create a rectangle 5¾in x 4⅜in. Mark the lower corners of the pocket with drill holes.


FRONT MASTER PLAN
BACK NOTCH
⅜"
⅜"
FRONT NOTCH
⅜"
FOLD
5¾"
FOLD
4⅜"
POCKET POSITION
SIDE SEAM
CENTER FRONT

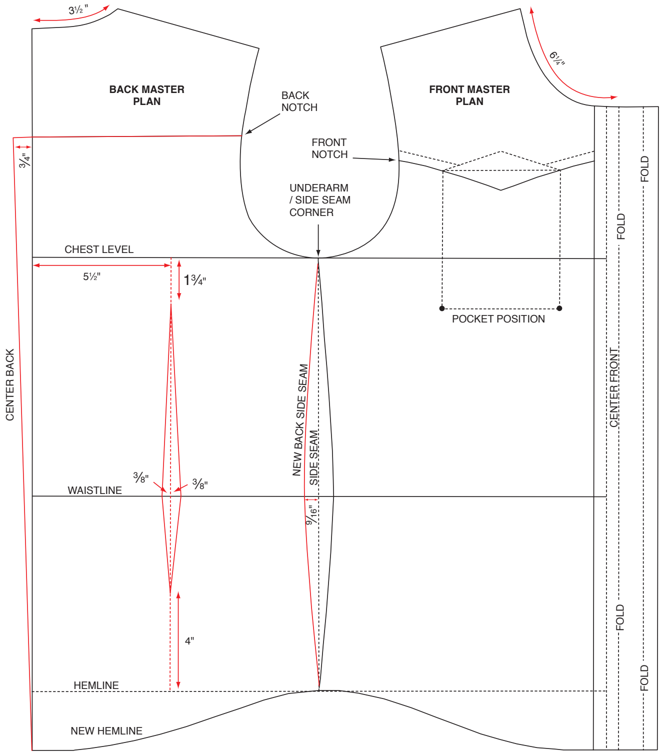

BACK MASTER PLAN
BACK NOTCH
FRONT NOTCH
UNDERARM / SIDE SEAM CORNER
CHEST LEVEL
POCKET POSITION
CENTER BACK
SIDE SEAM
NEW FRONT SIDE SEAM
FRONT MASTER PLAN
CENTER FRONT
FOLD
FOLD
FOLD
FOLD
WAISTLINE
9⁄16"
HEMLINE
NEW HEMLINE

STEP 6
DEVELOPING THE FRONT SHIRT PANEL

Shaping for a fitted silhouette

Side seam shaping will give the shirt a fitted silhouette. Back shaping with a dart will give you an even more fitted silhouette.

- Where the waistline intersects the side seam measure 9⁄16in toward the center front and mark.
- From the underarm / side seam corner draw a slightly curved line down to meet the new point on the waistline and carry through with a curve back to the hemline at the bottom on the side seam.


3½"
6¼"
BACK MASTER PLAN
FRONT MASTER PLAN
BACK NOTCH
FRONT NOTCH
¾"
UNDERARM / SIDE SEAM CORNER
CHEST LEVEL
5½"
1¾"
POCKET POSITION
CENTER BACK
NEW BACK SIDE SEAM
SIDE SEAM
⅜"
⅜"
WAISTLINE
9⁄16"
4"
HEMLINE
NEW HEMLINE
CENTER FRONT
FOLD
FOLD
FOLD
FOLD

STEP 7
DEVELOPING THE BACK YOKE SHAPE, CENTER BACK PLEAT, AND SHAPED BACK PANEL

- From the back armhole notch square across to the center back to create the back yoke panel.
- From where this line intersects with center back measure out ¾in.
- Connect this point to the bottom of the new hemline at the center back with a straight line. This will create half of the pleat width.
- Where the waistline intersects the side seam measure 9⁄16in toward the center back and mark.
- From the underarm / side seam corner draw a curved line down to the new point on the waistline; carry through with a curve back to the hemline at the bottom of the side seam.
- From the center back measure 5½in along the chest level.
- From this point, square down to the original hemline.
- Measure 1¾in down this line and mark. Measure 4in up the line from the original hemline and mark. Where this line intersects the waistline measure out ⅜in on each side and mark these points. Join all these points with straight lines to create the dart.

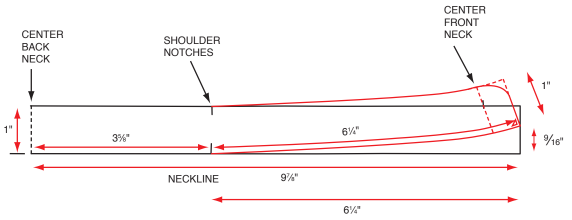
STEP 8
DEVELOPING THE COLLAR STAND

Measuring half the neck from the master plan

We will develop half the collar stand before creating the full collar stand. By taking measurements from the master plan, which is drawn in half, you will be measuring half the neck measurement.

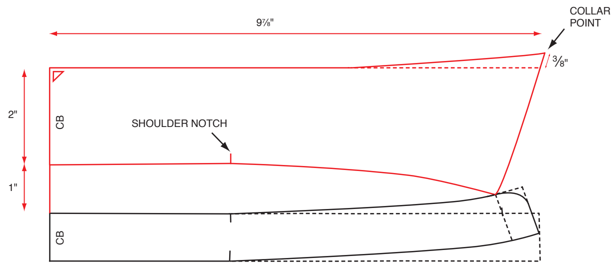
- On the master plan measure the length of the back neck, in this case 3⅝in, and the front neck from the high point shoulder down past the center front line to the point at which the placket finishes when folded, in this case 6¼in.
- Add these two measurements together to give half the neck measurement, in this case 9⅞in.

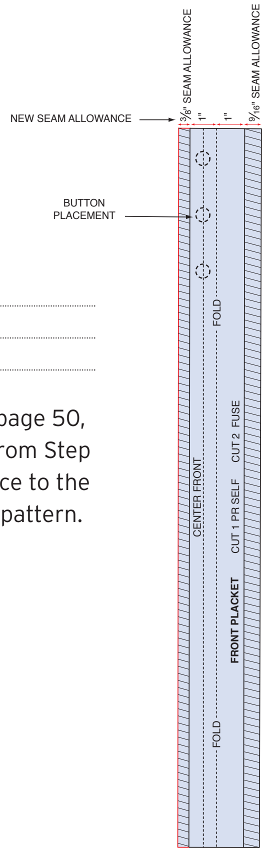
- On a new piece of piece of paper, draw a rectangle measuring 9⅞in by 1in, which is half the neck measurement by the width of the collar stand. Label the narrow side as the *center back neck* and the long side as the *neckline*.
- From the center back neck, measure 3⅝in (the half back neck measurement) along the bottom line of the rectangle and place a notch. Label it the *shoulder notch*. Repeat along the top of the rectangle.
- Measure up $\frac{9}{16}$in at the front edge of the rectangle and join this new point back to the lower shoulder notch with a slight curve.
- From the shoulder notch, measure 6¼in (the half front neck measurement) along this curved line. At the front of the curved line, square up 1in (the width of the collar stand). Then draw another curved line to connect this line back to the top shoulder notch.
- From the top right corner of the stand measure along 1in (the width of the placket) and from this point square across to the lower curved line. Label this *center front neck*. Round off the top right corner with a slight curve.



STEP 9
DEVELOPING THE TOP COLLAR

- Trace off the stand shape from Step 8 onto another piece of paper.
- Continue the center back line vertically up 3in from the top of the stand, square across 9⅞in, and make a mark. Connect this point back down to the center front line with a straight line. You have now created the basic top collar shape.
- At the collar point extend the front edge of the collar by ⅜in and draw a curved line back to meet the outer edge. This will give the collar a smoother shape.
- Measure up 1in from the top of the stand along the center back and make a mark. From here, square across to a point above the shoulder notch. From this point draw a curved line to meet the center front line, mirroring the curve of the stand. This is the inner edge of the 2in-wide top collar shape.



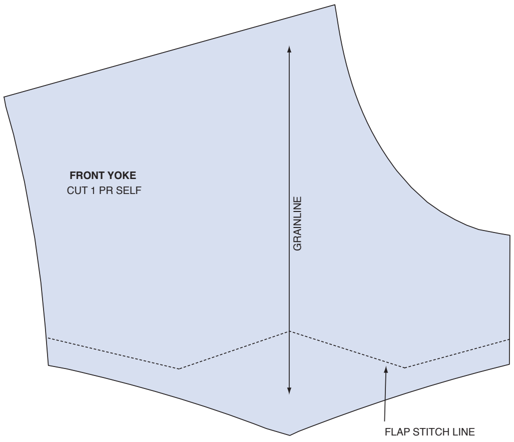

3⁄8" SEAM ALLOWANCE
9⁄16" SEAM ALLOWANCE
NEW SEAM ALLOWANCE
3⁄8"
1"
1"
9⁄16"
BUTTON PLACEMENT
FOLD
CENTER FRONT
FRONT PLACKET
CUT 1 PR SELF
CUT 2 FUSE
FOLD

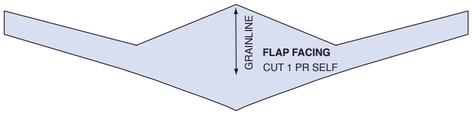
STEP 10
FRONT PLACKET PATTERN

- Following the instructions on page 50, trace off the placket pattern from Step 3, adding a 3⁄8in seam allowance to the right-hand side of the placket pattern.

STEP 11
FRONT YOKE AND CONCEALED POCKET FLAP FACING PATTERNS

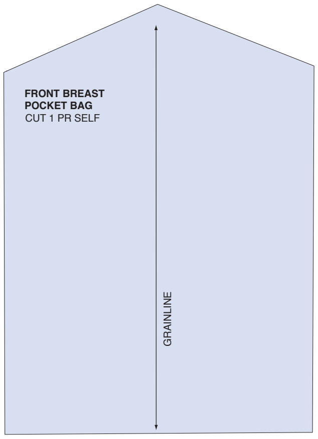
- Following the instructions on page 50, trace off the shape of the front yoke pattern from Steps 4 and 5.
- Indicate the concealed pocket flap position with a broken line.
- Trace off the flap facing pattern separately.


FRONT YOKE
CUT 1 PR SELF
GRAINLINE
FLAP STITCH LINE


GRAINLINE
FLAP FACING
CUT 1 PR SELF

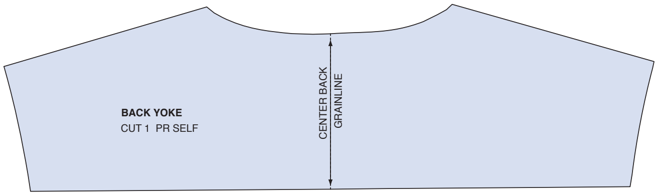
STEP 12
FRONT BREAST POCKET BAG PATTERN

- Following the instructions on page 50, trace off the front pocket bag pattern from Step 5.


FRONT BREAST POCKET BAG
CUT 1 PR SELF
GRAINLINE

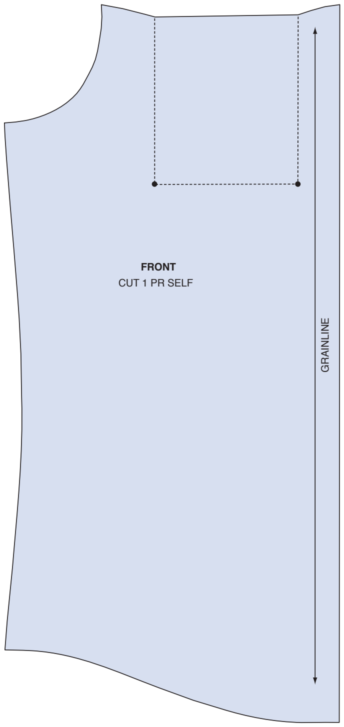
STEP 13
BACK YOKE PATTERN

- Trace off the back yoke from Step 7 onto a new piece of paper and, following the instructions on page 50, create the full pattern shape.


BACK YOKE
CUT 1 PR SELF
CENTER BACK
GRAINLINE

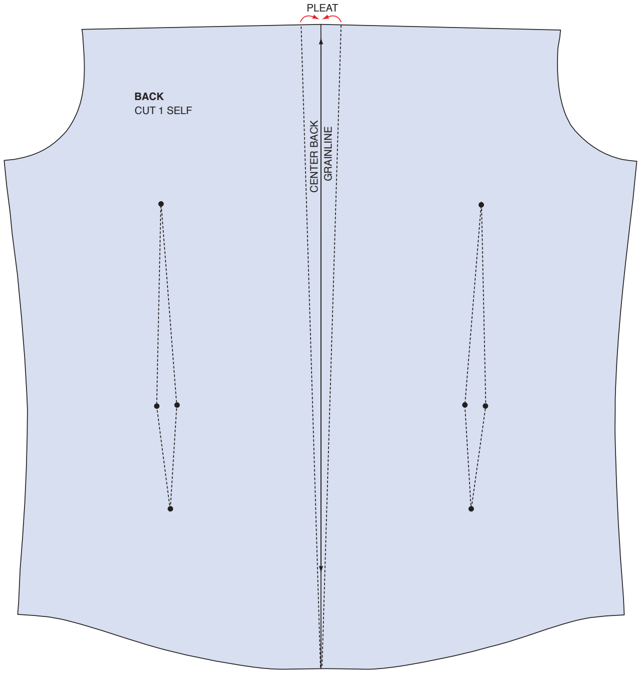
STEP 14
FRONT PATTERN

- Following the instructions on page 50, trace off a copy of the lower front shirt panel from Step 7. Follow the curve from the armhole to where the curve meets the top of the pocket bag, draw a horizontal line across the pocket, and then follow the curve toward the center front. This will create the pocket opening edge under the flap.


FRONT
CUT 1 PR SELF
GRAINLINE

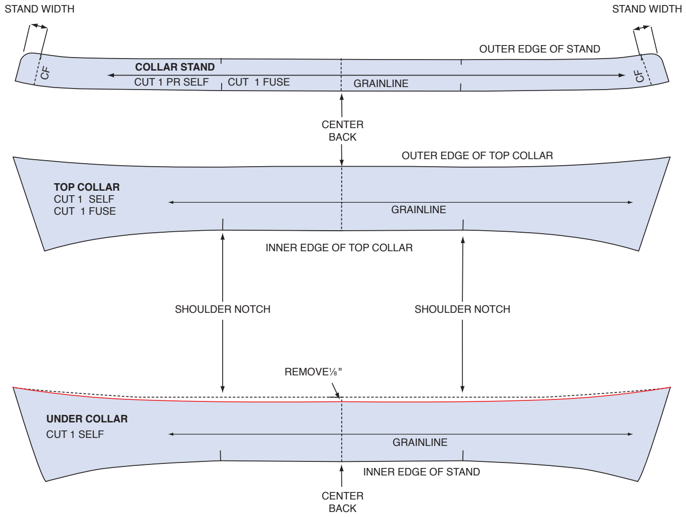
STEP 15
BACK PATTERN

- Trace off the back shirt panel and, following the instructions on page 50, create the full pattern shape.


PLEAT
BACK
CUT 1 SELF
CENTER BACK
GRAINLINE

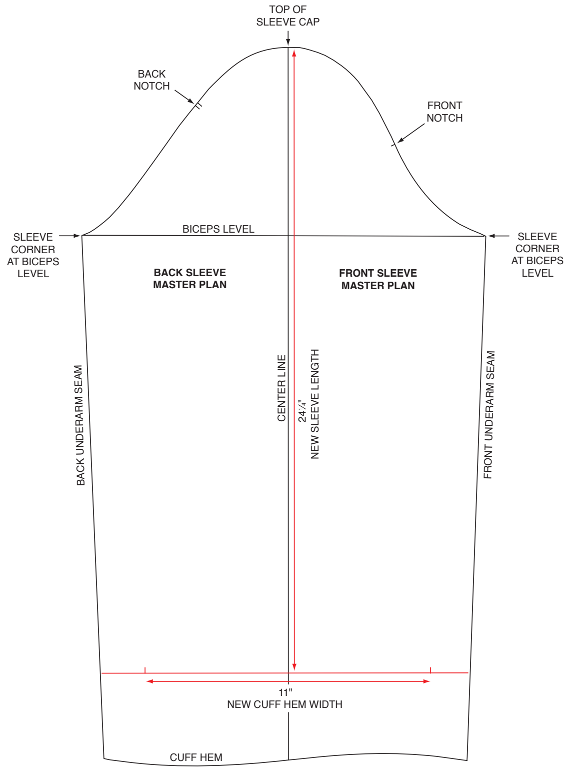
STEP 16
COLLAR STAND PATTERN
TOP COLLAR PATTERN
DEVELOPING THE UNDER COLLAR

- Trace off the collar stand pattern and, following the instructions on page 50, create the full pattern shape.
- Trace off the top collar pattern and, following the instructions on page 50, create the full pattern shape.
- The under collar is a copy of the top collar, reduced by ⅛in, at the center back neck, which is blended back with a line to both collar points; this reduction, when sewn, will pull the seam edge under the collar slightly so as not to be seen. Make a separate pattern for the under collar.


STAND WIDTH
STAND WIDTH
OUTER EDGE OF STAND
COLLAR STAND
CUT 1 PR SELF
CUT 1 FUSE
GRAINLINE
CF
CF
CENTER BACK
OUTER EDGE OF TOP COLLAR
TOP COLLAR
CUT 1 SELF
CUT 1 FUSE
GRAINLINE
INNER EDGE OF TOP COLLAR
SHOULDER NOTCH
SHOULDER NOTCH
REMOVE⅛"
UNDER COLLAR
CUT 1 SELF
GRAINLINE
INNER EDGE OF STAND
CENTER BACK

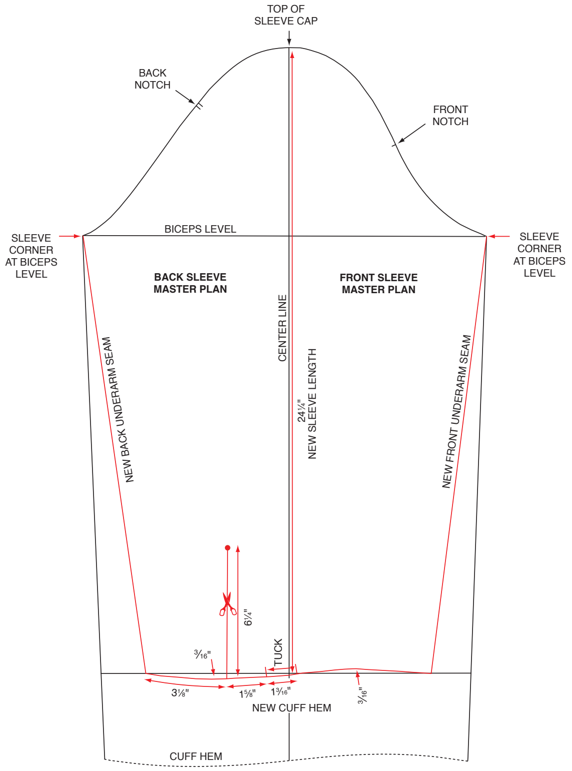
STEP 17
DEVELOPING THE SLEEVE MASTER PLAN

Start this development by selecting the basic men's sleeve sloper, or by drafting the basic sleeve sloper according to the instructions on page 42. Cut a large piece of drafting paper slightly longer than the length of the shirt you want to develop and transfer the shape of the sloper and all marks, labels, and instructions, following the directions on page 48. The design illustrated is shaped and has a gathered pleat on the back of the sleeve for even more shaping. The sleeve sloper that you have selected might be longer or shorter than the design you are developing. Analyze by taking a measurement from your fit model or dress form and by consulting your size chart, or even by using competitors' garments for comparison. The sleeve length is 24¼in and the cuff measurement is calculated by adding 1³⁄₁₆in to the wrist measurement of 9⅞in for a tuck, giving 11in.


TOP OF SLEEVE CAP
BACK NOTCH
FRONT NOTCH
SLEEVE CORNER AT BICEPS LEVEL
BICEPS LEVEL
SLEEVE CORNER AT BICEPS LEVEL
BACK SLEEVE MASTER PLAN
FRONT SLEEVE MASTER PLAN
BACK UNDERARM SEAM
CENTER LINE
24¼"
NEW SLEEVE LENGTH
FRONT UNDERARM SEAM
11"
NEW CUFF HEM WIDTH
CUFF HEM

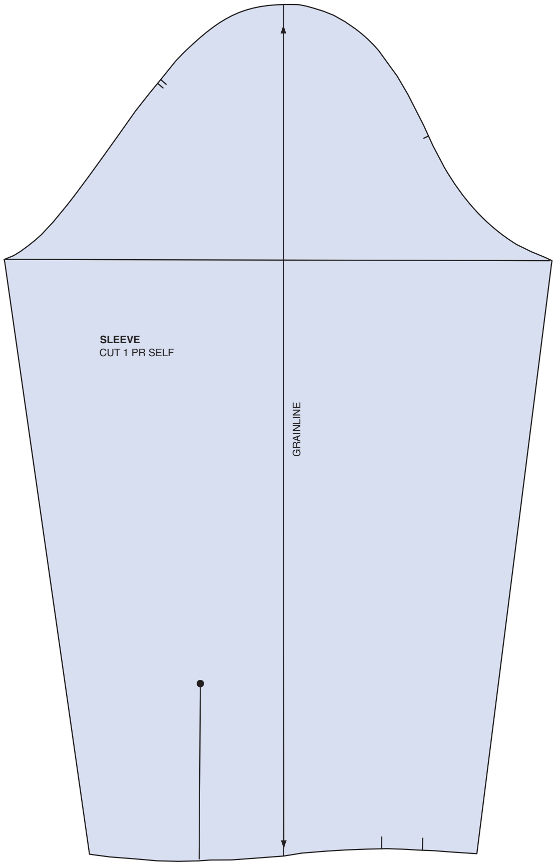
STEP 18
DEVELOPING THE SLEEVE SHAPE

- To create the shaping at the bottom of the sleeve, measure down ³⁄₁₆in on the back sleeve from the center of the new cuff hemline and mark this point. On the front sleeve, measure up ³⁄₁₆in from the center of the new cuff hemline and mark this point. Join the points with a curved line that is convex on the back sleeve and then reverses at the center line so that it is concave on the front.
- Now draw in the new underarm seam lines to create the sleeve shape.
- From the back underarm seam line measure in 3⅛in along the new cuff hemline and square up 6¼in. This is the cut line for the cuff guard. Measure in a further 1⅝in at the bottom of this line and mark and then a further 1³⁄₁₆in and mark. This will become the tuck.


TOP OF SLEEVE CAP
BACK NOTCH
FRONT NOTCH
SLEEVE CORNER AT BICEPS LEVEL
BICEPS LEVEL
SLEEVE CORNER AT BICEPS LEVEL
BACK SLEEVE MASTER PLAN
FRONT SLEEVE MASTER PLAN
CENTER LINE
NEW BACK UNDERARM SEAM
24¼"
NEW SLEEVE LENGTH
NEW FRONT UNDERARM SEAM
6¼"
³⁄₁₆"
TUCK
3⅛"
1⅝"
1³⁄₁₆"
³⁄₁₆"
NEW CUFF HEM
CUFF HEM

STEP 19
SLEEVE PATTERN

- Following the instructions on page 50, trace off the sleeve pattern.

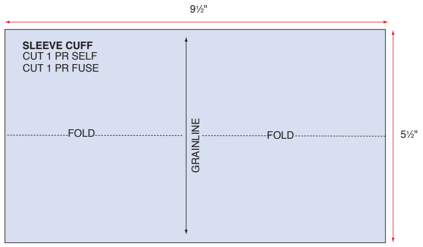

SLEEVE
CUT 1 PR SELF
GRAINLINE

STEP 20
DEVELOPING THE CUFF

Measuring the cuff

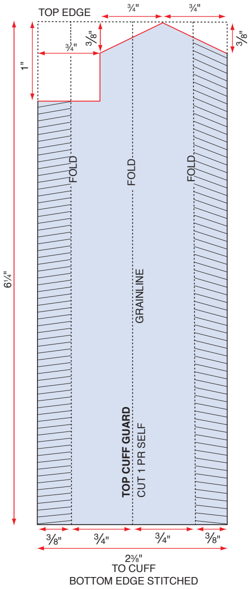
The cuff is a double pattern that is sewn onto the end of the sleeve and turned inside out. The cuff shape will start and finish at the guard opening. Measure this width from the pattern, in this case 11in, and subtract 1 3/16in for the tuck and ⅜in for the seam allowance (3/16in on either side) on the cuff guard opening, making 9½in.

- On a separate piece of paper, draw a horizontal box 9½in long by 5½in wide to create a rectangular-shaped cuff.
- Divide the box in half lengthways, draw a line across the center, and label it *fold*.


9½"
SLEEVE CUFF
CUT 1 PR SELF
CUT 1 PR FUSE
FOLD
GRAINLINE
FOLD
5½"

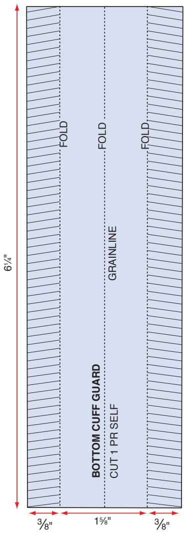
STEP 21
DEVELOPING THE TOP CUFF GUARD

- On a separate piece of paper, create a rectangular box 6¼in long by 2⅜in wide.
- Divide the box in half lengthways, drawing a line across the center, and label it *fold*.
- At each end square out ¾in from the fold line on both sides and mark. Join these points with straight lines. This will leave you with a ⅜in seam allowance on each long side.
- From the top left corner measure 1in down the long side of the rectangle and square across ¾in. This small rectangular shape will be removed from the pattern.
- From the top right corner measure ⅜in down the long side of the rectangle and mark, and measure ¾in across the short side and mark. Join these points with an angled line.
- Now measure ⅜in down from the edge of the rectangle you drew in the top left corner and join this point to the top of the first angled line to give a pointed shape to the top of the cuff guard.


TOP EDGE
¾"
¾"
¾"
⅜"
⅜"
1"
6¼"
FOLD
FOLD
FOLD
GRAINLINE
TOP CUFF GUARD
CUT 1 PR SELF
⅜"
¾"
¾"
⅜"
2⅜"
TO CUFF
BOTTOM EDGE STITCHED

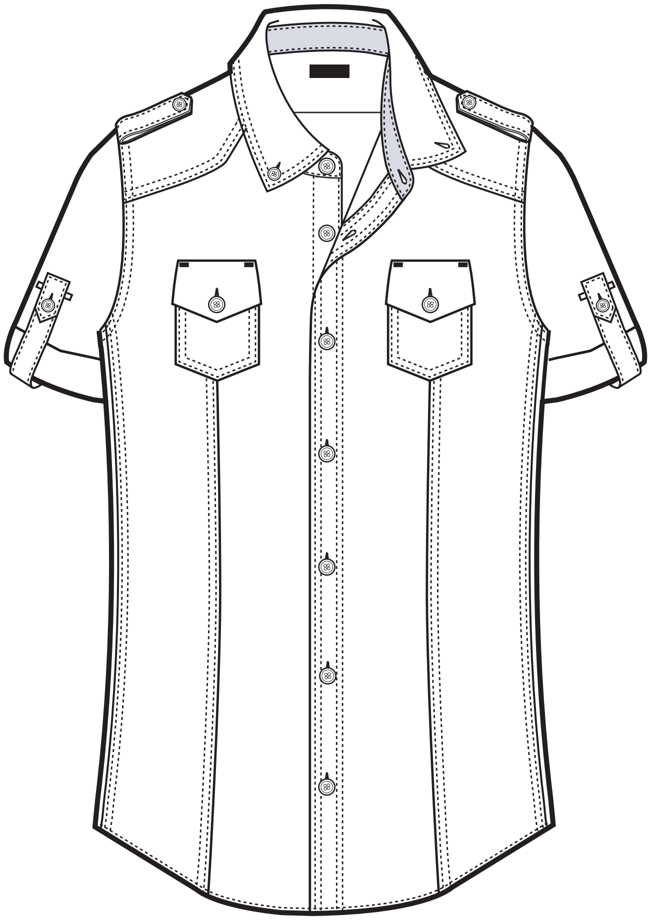
STEP 22
DEVELOPING THE BOTTOM CUFF GUARD

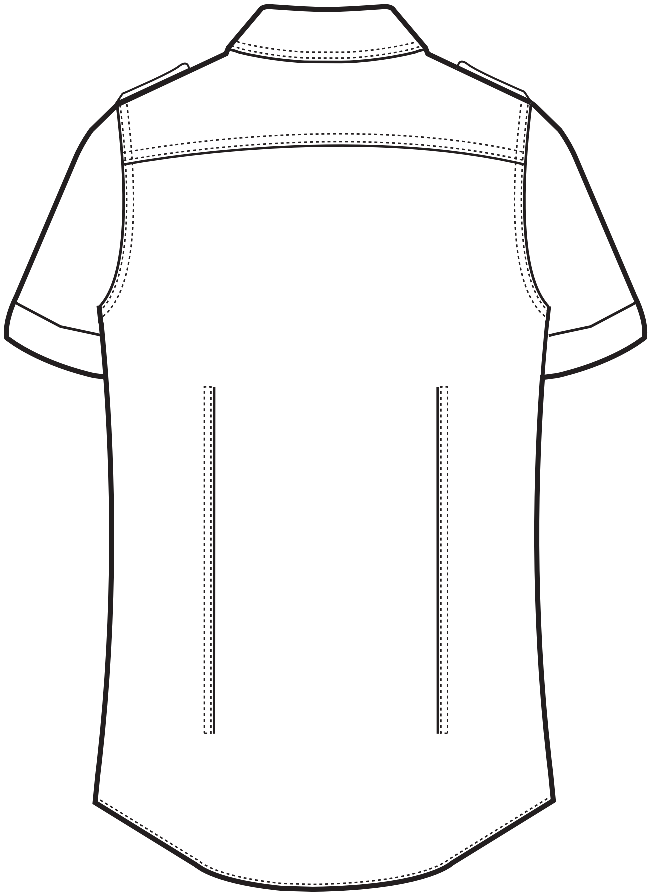
- Create a rectangular box 6¼in by 2⅜in.
- Divide the box in half lengthways, draw a line down the center, and label it *fold*.
- At each end square out ¾in on both sides from the fold line and mark. Join these points with straight lines. This will leave you with a ⅜in seam allowance on each long side.


FOLD
FOLD
FOLD
GRAINLINE
6¼"
BOTTOM CUFF GUARD
CUT 1 PR SELF
⅜"
1⅝"
⅜"

PATTERN

SHORT-SLEEVED SAFARI SHIRT



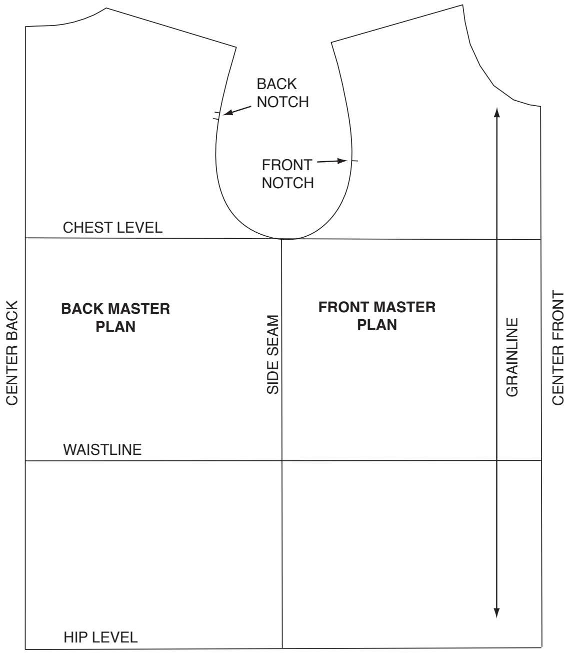


This pattern includes development of the following features:
Creating a darted body
Constructing a grown-on and a sewn-on placket
Adding length to the body
Creating a baseball hemline
Creating a shoulder yoke
Creating an epaulet and sleeve tab
Creating a patch pocket with flap
Creating a two-piece collar
Lowering the armhole
Reducing the sleeve cap height
Developing a short sleeve incorporating a cuff

STEP 1

DEVELOPING THE MASTER PLAN

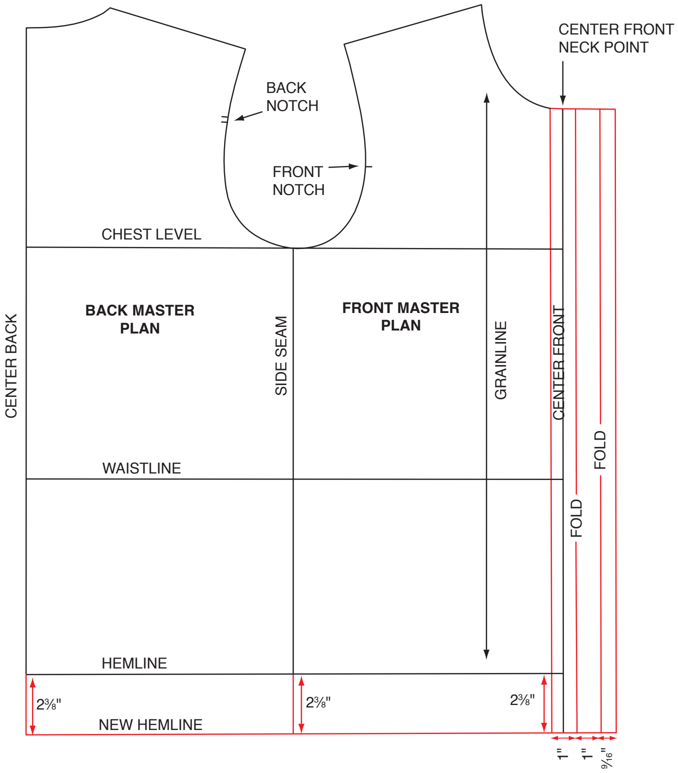
Start by selecting the basic men's upper body sloper, or by drafting the basic sloper according to the instructions on page 40. Cut a large piece of drafting paper slightly longer than the length of the shirt you want to develop and transfer the shape of the sloper and all marks, labels, and instructions, following the directions on page 48.


BACK NOTCH
FRONT NOTCH
CHEST LEVEL
BACK MASTER PLAN
FRONT MASTER PLAN
CENTER BACK
SIDE SEAM
GRAINLINE
CENTER FRONT
WAISTLINE
HIP LEVEL

STEP 2

LENGTHENING THE BODY AND CREATING A GROWN-ON AND SEWN-ON PLACKET

- Extend the center front and center back lines down 2 3/8in from the hemline and square across.
- The front left body panel has a grown-on placket of 1in and the front right body has a sewn-on placket. You can create both from one pattern development.
- From the center front neck point measure back 1/2in along the neckline and mark, and measure out 1/2in and mark; repeat this at the new hemline and connect these points with straight lines and label the outer one *fold*.
- From this line continue to measure out 1in at the neckline and mark, and then a further 9/16in for the seam width; repeat at the hemline. Again, join these points, mark, and label the first line as a fold line.
- The overall measurement of the placket is now 2 1/2in, including the seam allowance.



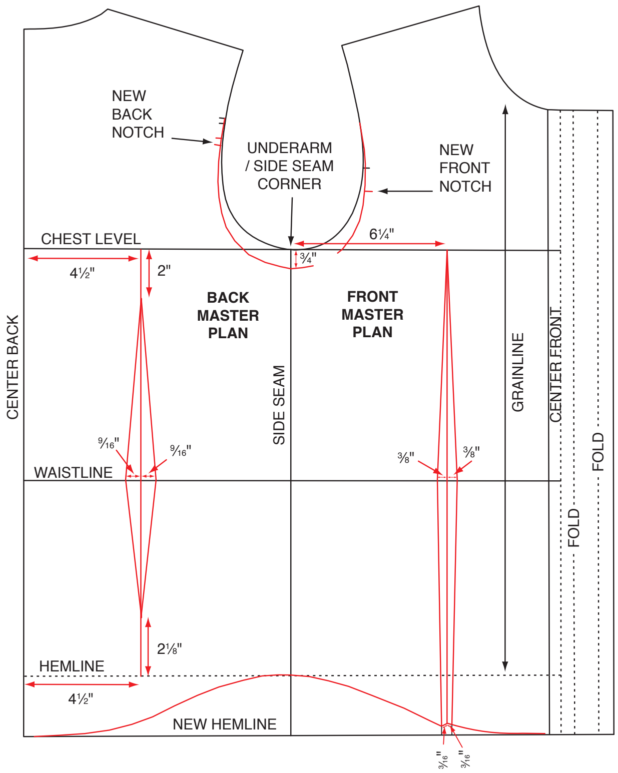
CENTER FRONT NECK POINT
BACK NOTCH
FRONT NOTCH
CHEST LEVEL
BACK MASTER PLAN
FRONT MASTER PLAN
CENTER BACK
SIDE SEAM
GRAINLINE
CENTER FRONT
FOLD
FOLD
WAISTLINE
HEMLINE
2 3/8"
2 3/8"
2 3/8"
NEW HEMLINE
1"
1"
9/16"

STEP 3

DEVELOPING THE NEW ARMHOLE, BODY, AND HEM SHAPING

Shaping the body

There is no side seam shaping in this design because the side back and side front darts give enough shape to the silhouette.

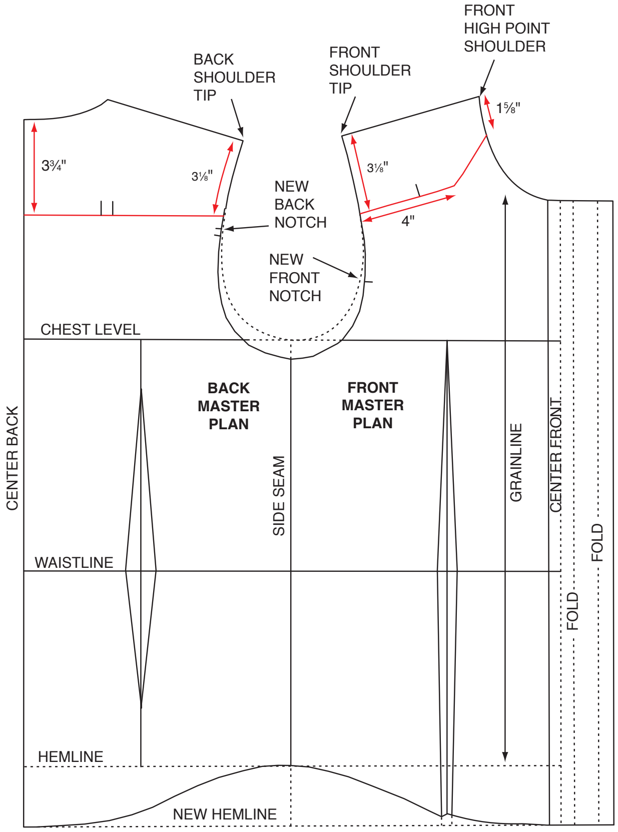


NEW BACK NOTCH
UNDERARM / SIDE SEAM CORNER
NEW FRONT NOTCH
CHEST LEVEL
6 1/4"
3/4"
4 1/2"
2"
BACK MASTER PLAN
FRONT MASTER PLAN
CENTER BACK
SIDE SEAM
GRAINLINE
CENTER FRONT
FOLD
FOLD
9/16"
9/16"
3/8"
3/8"
WAISTLINE
2 1/8"
HEMLINE
4 1/2"
NEW HEMLINE
3/16"
3/16"

- Measure 3/4in down the side seam and mark. From this position on the front and back master plan, using your basic upper body slopers as a template, trace the new lowered armhole shape, continuing it up to connect with the shoulders. Draw in the new lowered notch positions.
- Create the front dart by measuring 6 1/4in along the chest level from the old underarm / side seam corner and mark, square down and draw a line to connect with the new hemline. Where this line intersects the waistline measure out 3/8in on both sides and mark. This will become the widest part of the dart. Repeat at the new hemline, measuring out 3/16in on both sides and mark. Draw in the dart legs from the chest level down, connecting all of the above points.
- Create the side back dart by measuring 4 1/2in along the chest level and the original hemline from the center back and mark. Draw a vertical line to connect these two points. Measure 2in down this new line and mark and up 2 1/8in and mark. Where this new line intersects the waistline measure out 9/16in on both sides and mark. This will become the widest point of the dart. Draw in the dart legs, connecting all of the above points.
- Develop the hem shaping from the center front to the side seam using a French curve. When you reach the front dart you will need to step the hemline down so that it continues in a smooth line when the dart is folded. Do this by tracing the dart legs and the hemline onto a separate piece of paper, fold the dart, and then redraw the hemline. Cut it out and, when you open up the paper, you will have a template off which to trace the step. Continue to draw in the hemline up to the side seam and then back down to the center back.

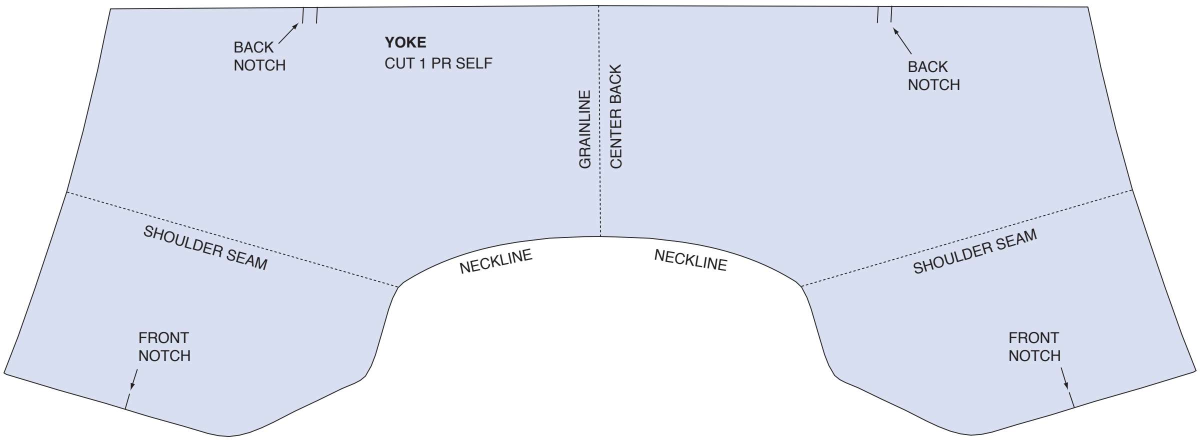
STEP 4
DEVELOPING THE FRONT AND BACK YOKE SHAPES

- For the back yoke shaping measure 3¾in down the center back line and mark, and 3⅛in from the back shoulder tip down the armhole and mark. Connect these two points with a straight line.
- For the front yoke measure 3⅛in down the armhole from the front shoulder tip and mark, square across 4in, and mark, and measure 1⅝in down the front high point shoulder and mark. Connect all the above points with straight lines.
- Trace off the back yoke onto a separate piece of paper. Next, align the back shoulder seam you have just traced with the front shoulder seam on the master plan and trace off the front yoke shape to complete the yoke.


FRONT HIGH POINT SHOULDER
BACK SHOULDER TIP
FRONT SHOULDER TIP
1⅝"
3¾"
3⅛"
3⅛"
NEW BACK NOTCH
4"
NEW FRONT NOTCH
CHEST LEVEL
BACK MASTER PLAN
FRONT MASTER PLAN
CENTER BACK
SIDE SEAM
GRAINLINE
CENTER FRONT
FOLD
FOLD
WAISTLINE
HEMLINE
NEW HEMLINE

STEP 5
YOKE PATTERN

- Trace off the yoke onto a new piece of paper and, following the instructions on page 50, create the full pattern shape.


BACK NOTCH
YOKE
CUT 1 PR SELF
GRAINLINE
CENTER BACK
BACK NOTCH
SHOULDER SEAM
NECKLINE
NECKLINE
SHOULDER SEAM
FRONT NOTCH
FRONT NOTCH

STEP 6

DEVELOPING THE FRONT PATCH POCKET AND FLAP

Front patch pocket shape

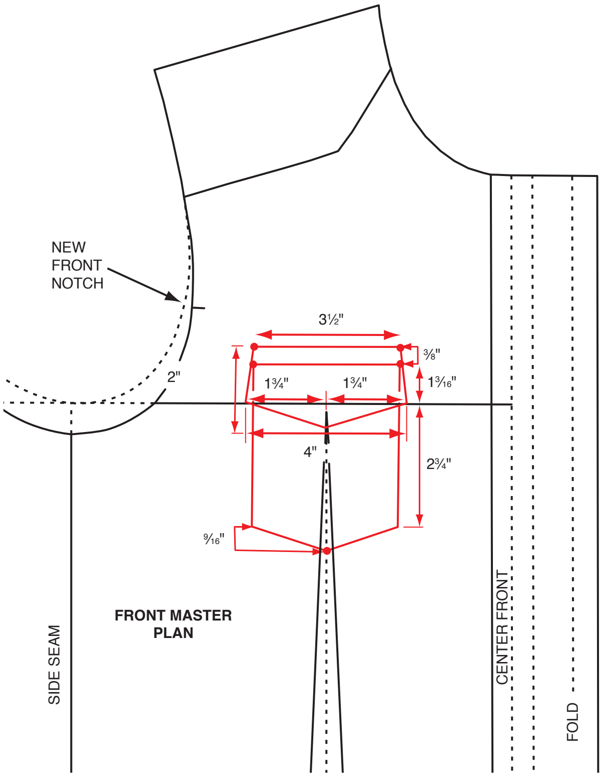
The front patch pocket is placed directly over the side front dart and is $3\frac{1}{2}$in wide by $4\frac{1}{2}$in long at the lowest point of its spade shape.

- From the dart point measure out $1\frac{3}{4}$in on both sides along the chest level and mark to create the $3\frac{1}{2}$in pocket width.
- From these points, square up $1\frac{3}{16}$in and mark. From the same points, square $2\frac{3}{4}$in down from the chest level and mark. Measure down $\frac{9}{16}$in on the dart line and mark. Join all the above points to create the spade-shaped pocket.

Pocket flap shape

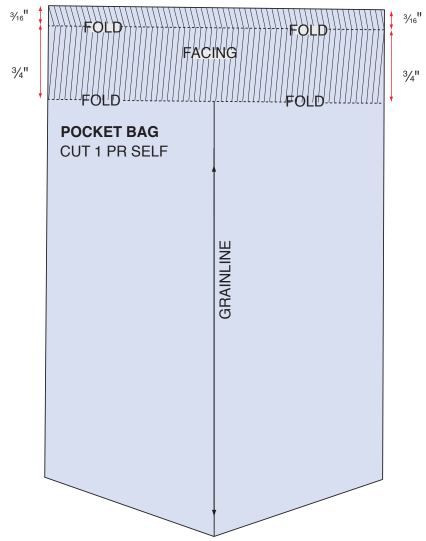
The pocket flap is also spade shaped and is developed on top of the pocket for fit purposes. The top flap is positioned $\frac{3}{8}$in above the pocket opening edge.

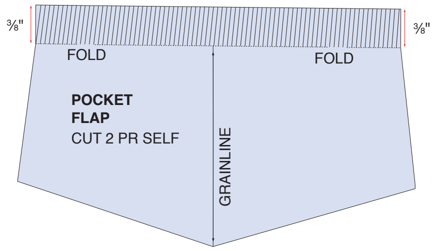
- Measure up $\frac{3}{8}$in from the center at the top of the pocket and square out $1\frac{3}{4}$in on both sides and mark. This is the upper edge of the pocket flap.
- From the center of this line square down 2in and mark; this is the lowest point of the spade shape. Measure $\frac{3}{8}$in back up this line, square out 2in on both sides, and mark. Join these points up to the upper edge of the pocket flap and down to the lowest point of the spade shape.



STEP 7
POCKET PATTERNS

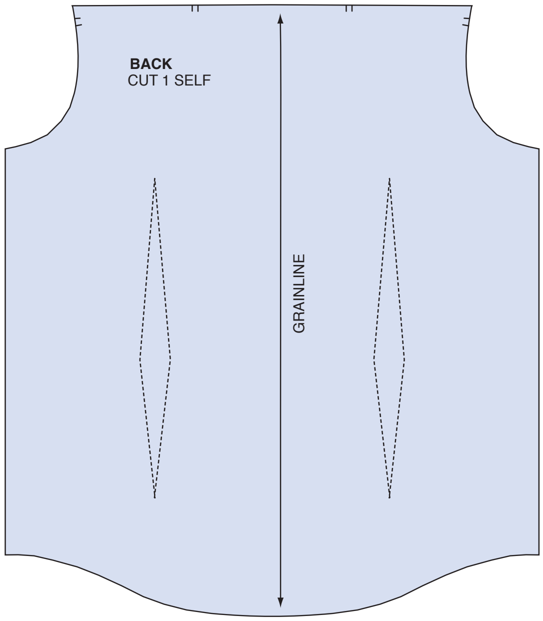
- Following the instructions on page 50, trace off the pocket patterns, adding a 3⁄8in allowance to the top of the pocket flap and a 3⁄4in facing plus a 3⁄16in seam allowance to the top of the pocket bag.


3⁄16"
FOLD
FOLD
3⁄16"
FACING
3⁄4"
3⁄4"
FOLD
FOLD
POCKET BAG
CUT 1 PR SELF
GRAINLINE


3⁄8"
3⁄8"
FOLD
FOLD
POCKET
FLAP
CUT 2 PR SELF
GRAINLINE

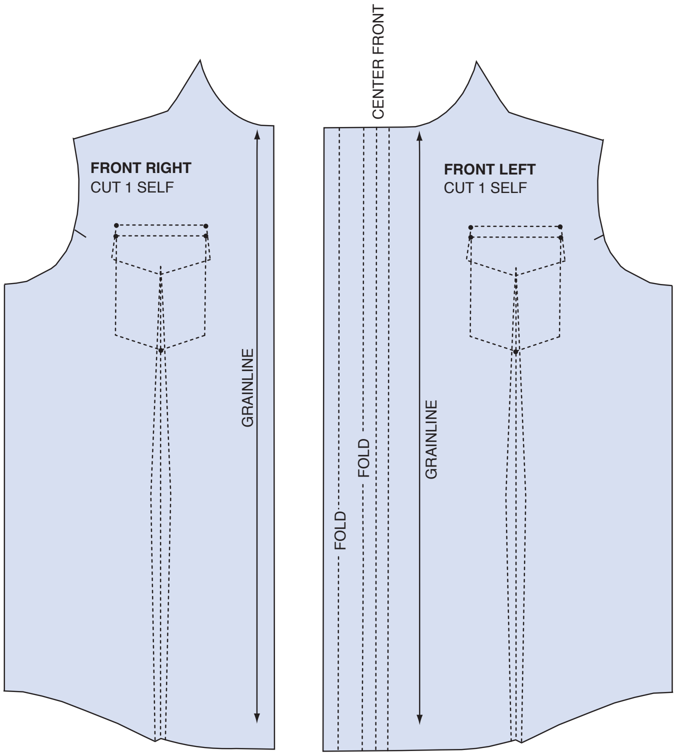
STEP 8
BACK PATTERN

- Trace off the back onto a new piece of paper and, following the instructions on page 50, create the full pattern shape.


BACK
CUT 1 SELF
GRAINLINE

STEP 9
FRONT PATTERN

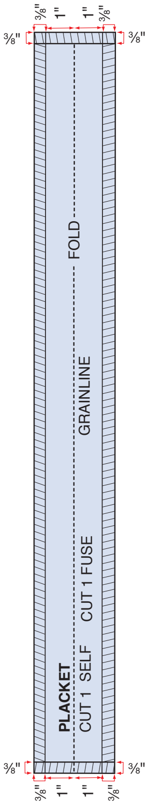
- The right-hand side of the front pattern has a sewn-on placket as a design feature and the left-hand side has a grown-on placket that is folded back and sewn. Following the instructions on page 50, trace off the front pattern including the placket to create the left-hand panel, and then retrace the front panel without the placket development to create the right-hand panel.



CENTER FRONT
FRONT RIGHT
CUT 1 SELF
GRAINLINE
FOLD
FOLD
GRAINLINE
FRONT LEFT
CUT 1 SELF

STEP 10
PLACKET PATTERN

- Following the instructions on page 50, trace off the placket pattern separately to be cut with fusing.



⅜"
1"
1"
⅜"
⅜"
⅜"
FOLD
GRAINLINE
PLACKET
CUT 1 SELF CUT 1 FUSE
⅜"
⅜"
⅜"
1"
1"
⅜"

STEP 11

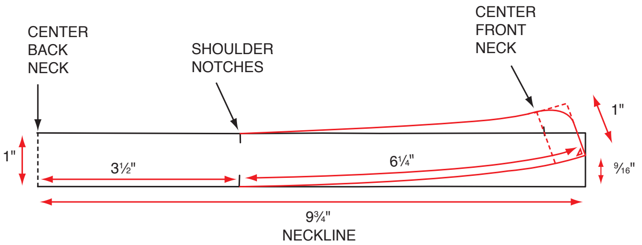
DEVELOPING THE COLLAR STAND

Measuring half the neck from the master plan

We will develop half the collar stand before creating the full collar stand. By taking measurements from the master plan, which is drawn in half, you will be measuring half the neck measurement.

- On the master plan measure the length of the back neck, in this case 3½in, and the front neck from the shoulder tip down past the center front line to the point at which the placket finishes when folded, in this case 6¼in.
- Add these two measurements together to give half the neck measurement, in this case 9¾in.

- On a new piece of piece of paper, draw a rectangle measuring 9¾in by 1in, which is the half neck measurement by the width of the collar stand. Label the narrow side as the *center back neck* and the long side as the *neckline*.
- From the center back neck, measure 3½in (the half back neck measurement) along the bottom line of the rectangle and place a notch. Label it the *shoulder notch*. Repeat along the top side of the rectangle.
- Measure up 9/16in at the front edge of the rectangle and join this point back to the shoulder notch with a slight curve.
- From the shoulder notch, measure 6¼in (the half front neck measurement) along this curved line. At the front of the curved line, square up 1in (the width of the collar stand). Then draw another curved line to connect this line back to the top shoulder notch.
- From the top right corner of the stand measure along 1in (the width of the placket) and from this point square across to the lower curved line. Label this *center front neck*. Round off the top right corner with a slight curve.



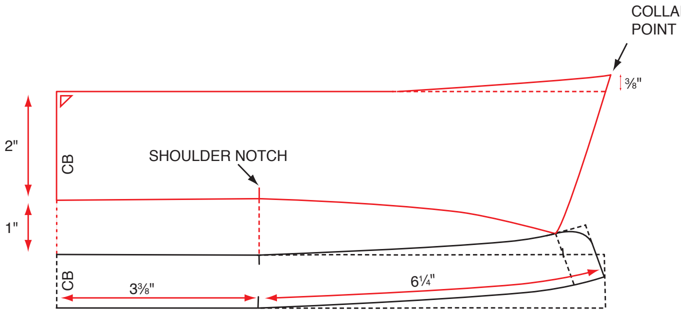
STEP 12

DEVELOPING THE TOP COLLAR

Collar shape

There are many variations in collar shape, both traditional and contemporary. Here we are developing a straight collar shape. Again, only half of this pattern will be drafted.

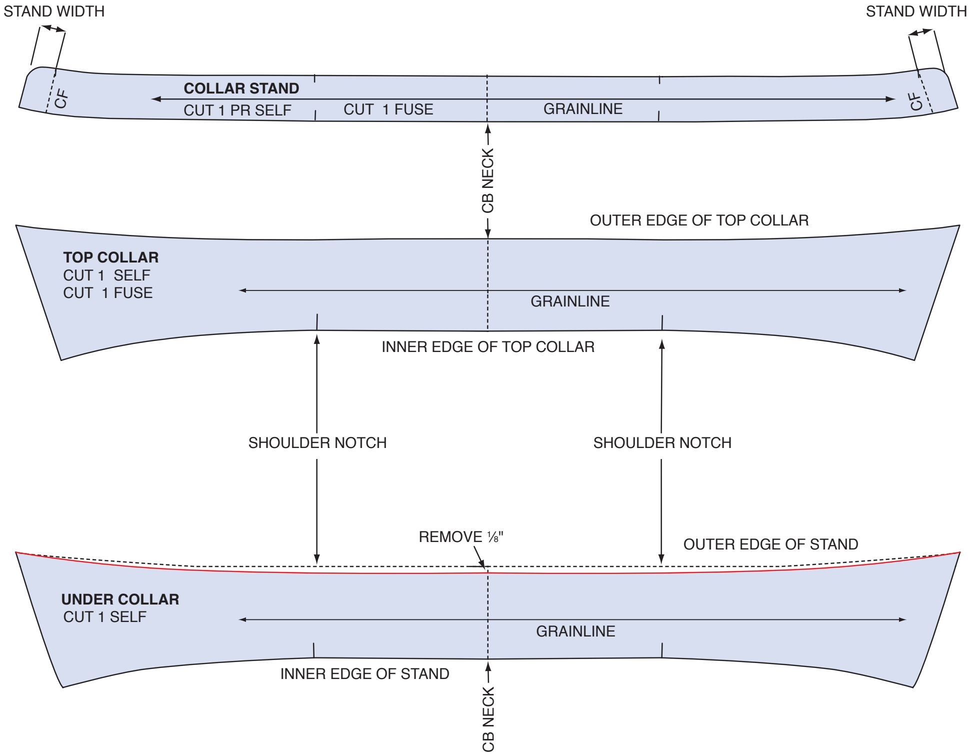
- Trace off the stand shape from Step 11 onto another piece of paper.
- Continue the center back line vertically up 3in from the top of the stand, square across 9½in, and make a mark. This is the collar point. Connect this point back down to the center front line with a straight line. You have now created the basic top collar shape.
- At the collar point measure up ⅜in from the front edge of the collar extend the front edge of the collar by ⅜in and draw a curved line back to meet the outer edge. This will give the collar a smoother shape.
- Measure up 1in from the top of the stand along the center back and make a mark. From here, square across to a point above the shoulder notch. From this point draw a curved line to meet the center front line, mirroring the curve of the stand. This is the inner edge of the 2in-wide top collar shape.



STEP 13

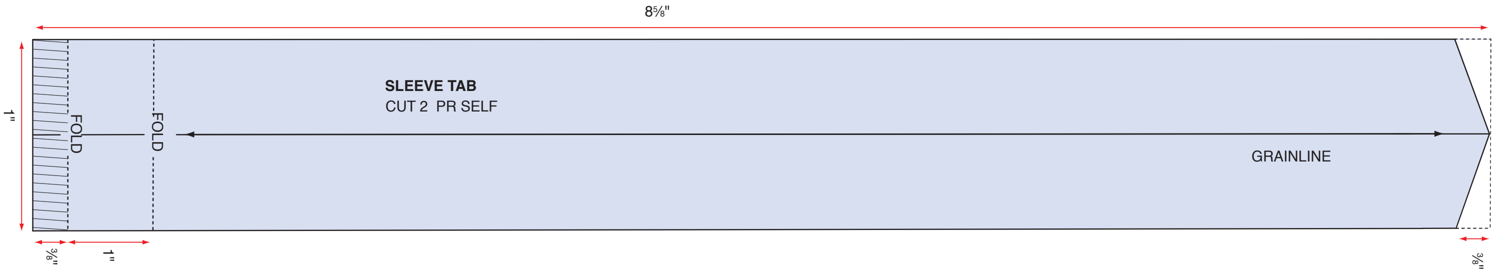
COLLAR STAND PATTERN
TOP COLLAR PATTERN
DEVELOPING THE UNDER COLLAR

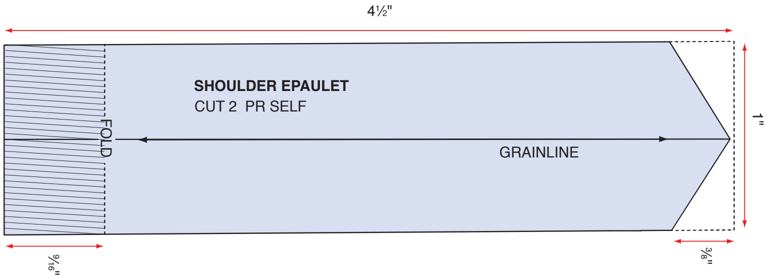
- Trace off the collar stand pattern and, following the instructions on page 50, create the full pattern shape.
- Trace off the top collar pattern and, following the instructions on page 50, create the full pattern shape.
- The under collar is a copy of the top collar reduced by ⅛in at the center back neck, which is blended back with a line to both collar points; this reduction, when sewn, will pull the seam edge under the collar slightly so as not to be seen. Make a separate pattern for the under collar.


STAND WIDTH
STAND WIDTH
COLLAR STAND
CUT 1 PR SELF
CUT 1 FUSE
GRAINLINE
CF
CF
CB NECK
OUTER EDGE OF TOP COLLAR
TOP COLLAR
CUT 1 SELF
CUT 1 FUSE
GRAINLINE
INNER EDGE OF TOP COLLAR
SHOULDER NOTCH
SHOULDER NOTCH
REMOVE ⅛"
OUTER EDGE OF STAND
UNDER COLLAR
CUT 1 SELF
GRAINLINE
INNER EDGE OF STAND
CB NECK

STEP 14
DEVELOPING THE SHOULDER EPAULET AND SLEEVE TAB

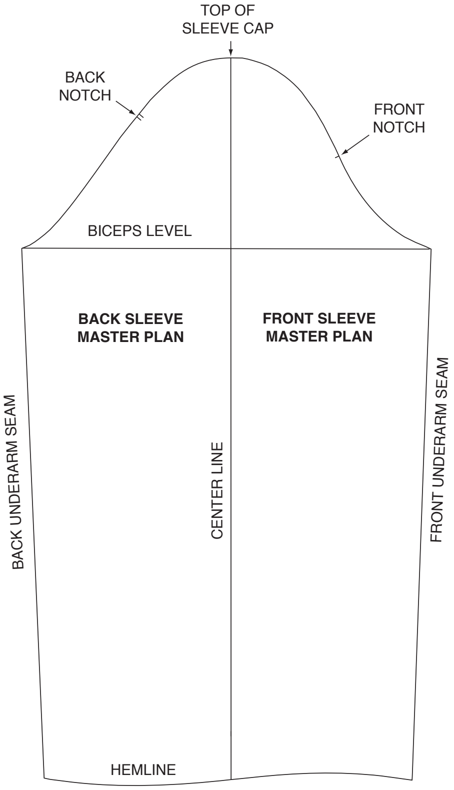
- For the sleeve tab, draw a rectangle 1in wide by 8⅝in long.
- Create the point at the end of the tab by measuring ⅜in back down both long sides of the rectangle and then joining these two points back to a central point.
- At the other end of the rectangle, measure in ⅜in and square across for the seam allowance, and a further 1in and square across for the fold line. The tab on the sleeve that the sleeve tab folds over is prebought herringbone cotton tape.
- For the shoulder epaulets draw a vertical rectangle 1in wide and 4½in long. Follow the instructions for the sleeve tab, but with a 9/16in seam allowance and no fold line.


8⅝"
SLEEVE TAB
CUT 2 PR SELF
1"
FOLD
FOLD
GRAINLINE
⅜"
1"
⅜"


4½"
SHOULDER EPAULET
CUT 2 PR SELF
FOLD
GRAINLINE
1"
9/16"
⅜"

STEP 15
DEVELOPING THE SLEEVE MASTER PLAN

Start this development by selecting the basic men's sleeve sloper, or by drafting the basic sleeve sloper according to the instructions on page 42. Cut a large piece of drafting paper slightly longer than the length of the shirt you want to develop and transfer the shape of the sloper and all marks, labels, and instructions, following the directions on page 48. The design illustrated has a short sleeve with turned-up cuff.


TOP OF
SLEEVE CAP
BACK
NOTCH
FRONT
NOTCH
BICEPS LEVEL
BACK SLEEVE
MASTER PLAN
FRONT SLEEVE
MASTER PLAN
BACK UNDERARM SEAM
CENTER LINE
FRONT UNDERARM SEAM
HEMLINE

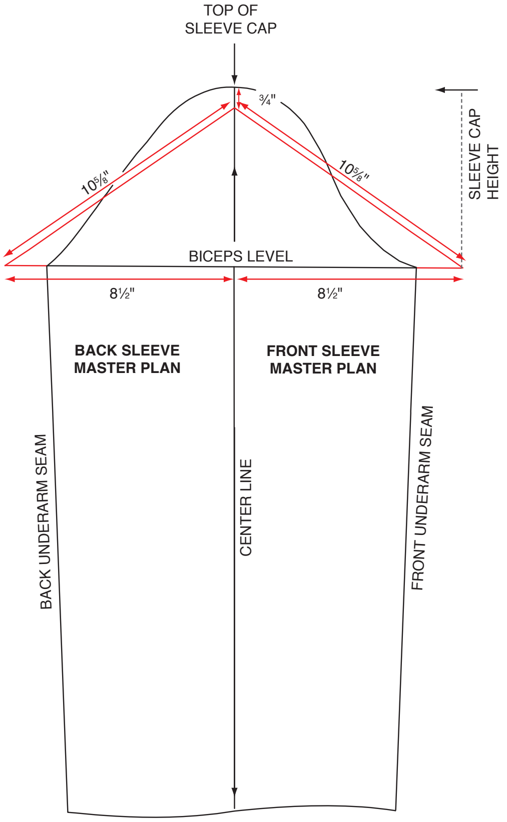
STEP 16

DEVELOPING THE SLEEVE WITH A REDUCED SLEEVE CAP

Measurements for developing the sleeve

You will need three measurements to develop the sleeve:

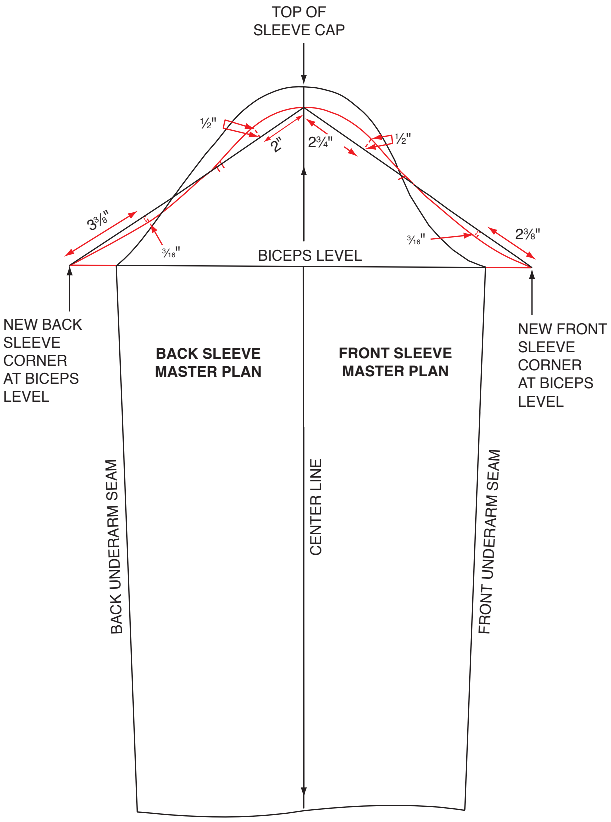
1. Half the armhole measurement—measure the new armhole on the front and back patterns. In this case the front armhole is 10 1/4in and the back 11in. Add these measurements together (21 1/4in) and divide in half, making 10 5/8in.
2. Half the biceps measurement—measure the biceps width from the master plan. In this case it is 14in. As this is a casual-fitting shirt you can determine the amount of ease according to the design. In this case we will add 3in ease to the biceps measurement, making 17in. Divide this measurement in half, making 8 1/2in.
3. Half the cuff measurement, which in this case is 17 5/8in.


TOP OF
SLEEVE CAP
3/4"
SLEEVE CAP
HEIGHT
10 5/8"
10 5/8"
BICEPS LEVEL
8 1/2"
8 1/2"
BACK SLEEVE
MASTER PLAN
FRONT SLEEVE
MASTER PLAN
BACK UNDERARM SEAM
CENTER LINE
FRONT UNDERARM SEAM

- Measure 3/4in down the center line from the top of the sleeve cap to reduce the height of the sleeve cap by the same amount that you lowered the armhole in Step 3.
- At an angle from the new top of the sleeve cap, draw out a line measuring half the new armhole—10 5/8in. From the center line, draw out a line measuring half the new biceps measurement—8 1/2in. Adjust these lines until they meet to form a triangle and repeat on the other side of the sleeve. This will become the frame around which you construct the new shortened sleeve cap.

STEP 17

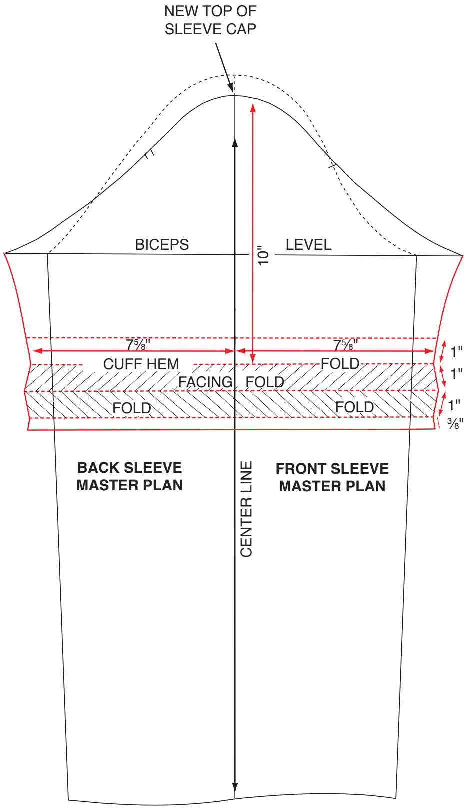
COMPLETING THE NEW SLEEVE SHAPE


TOP OF
SLEEVE CAP
1/2"
2"
2 3/4"
1/2"
3 3/8"
3/16"
BICEPS LEVEL
3/16"
2 3/8"
NEW BACK
SLEEVE
CORNER
AT BICEPS
LEVEL
NEW FRONT
SLEEVE
CORNER
AT BICEPS
LEVEL
BACK SLEEVE
MASTER PLAN
FRONT SLEEVE
MASTER PLAN
BACK UNDERARM SEAM
CENTER LINE
FRONT UNDERARM SEAM

- Shape the sleeve cap by measuring 2 3/4in from the new top of the sleeve cap along the diagonal line toward the new front sleeve corner at biceps level, square out 1/2in, and mark. Then measure 2 3/8in up along the diagonal line from the front corner of the sleeve at biceps level, square 3/16in down, and mark. On the back measure 2in down the diagonal line from the sleeve cap top, square out 1/2in, and mark; measure 3 3/8in up along the diagonal line from the back sleeve corner at biceps level, square down 3/16in, and mark.
- Using a French curve draw in shallow raised curves from the new top of the sleeve cap through the marks on the upper portion of the sleeve cap, reversing the curves at the marks on the lower portion of the sleeve cap, and finishing these hollow curved lines at the corners of the sleeve at biceps level. Add in the notches taken from the body panels.

STEP 18
SHORTENING THE SLEEVE

- From the top of the sleeve cap measure 10in down the center line and square out 7⅝in on both sides. This is the new cuff hem width. Join the ends of this line back up to the corners of the sleeve at biceps level with a curve.
- To add the folded cuff to the cuff hem, measure 1in up from this line, and square across, drawing a dotted line to meet the lines at the sides. This is the line to which the cuff will fold up. From the cuff hem continue to measure down 1in and square across with another dotted line, the same width as the first dotted line. Measure a further 1in down and square across with a line the same width as the cuff hem. Join all these points at the sides.
- Add a further ⅜in seam to the end.

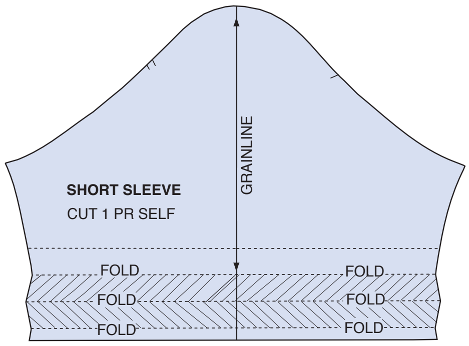

NEW TOP OF SLEEVE CAP
BICEPS
10"
LEVEL
7⅝"
7⅝"
CUFF HEM
FOLD
FACING
FOLD
FOLD
FOLD
1"
1"
1"
⅜"
BACK SLEEVE MASTER PLAN
CENTER LINE
FRONT SLEEVE MASTER PLAN

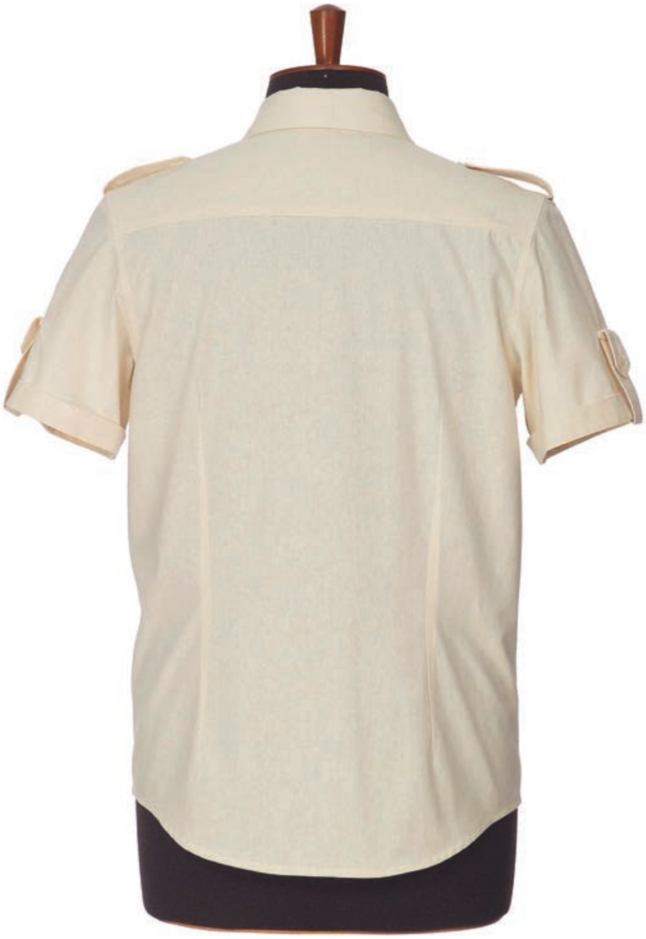
Blending a seam

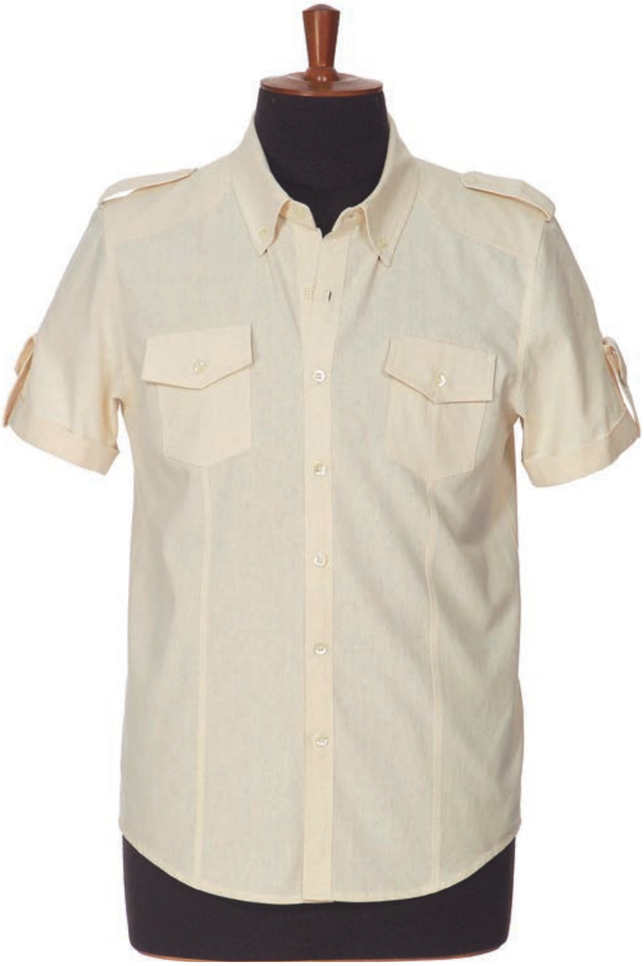
To find out how to create the steps in the curved underarm seam so that it is smooth when the cuff is folded, try folding the pattern and then drawing in the curve of the underarm seam. Either trim the seam with the paper still folded or mark with a tracing wheel, before opening out the pattern.

STEP 19
SHORT SLEEVE PATTERN

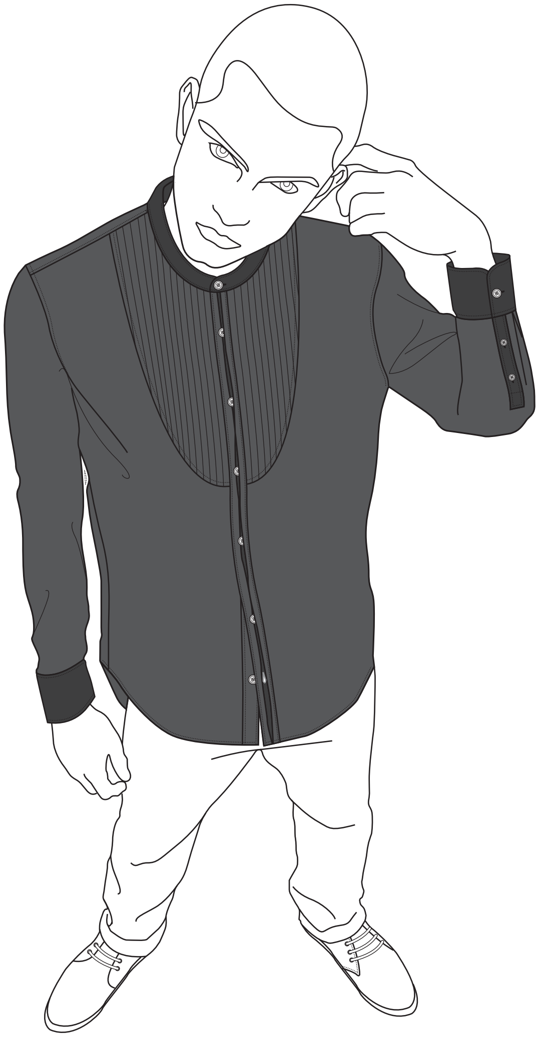
- Following the instructions on page 50, trace off the sleeve pattern.

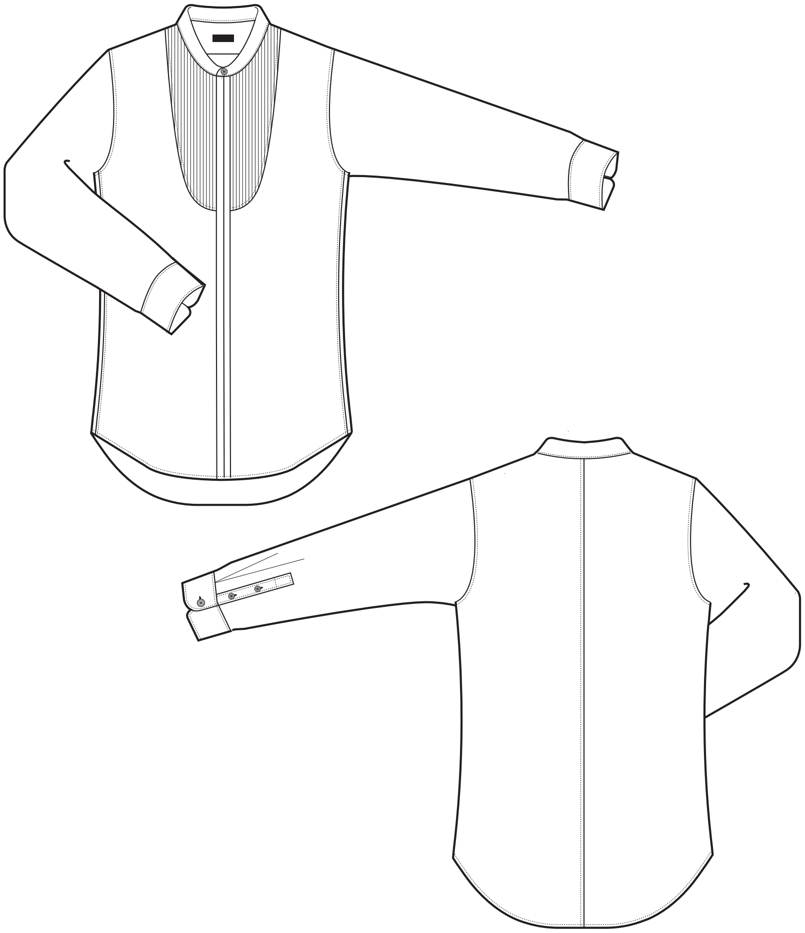

SHORT SLEEVE
CUT 1 PR SELF
GRAINLINE
FOLD
FOLD
FOLD
FOLD
FOLD
FOLD





PATTERN
BIB SHIRT



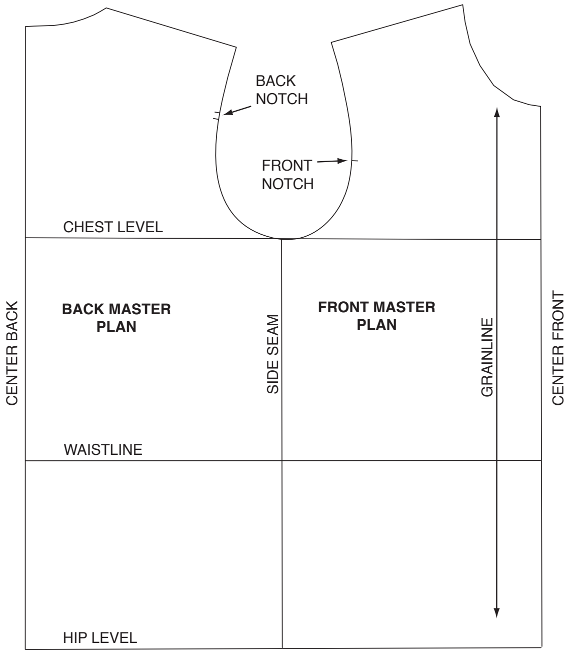


This pattern includes development of the following features:

Shaping the body
Creating a concealed front placket
Adding length to the body
Shaping the hem with a lowered back
Creating a pleated bib panel
Creating a mandarin collar
Lowering the armhole
Widening the sleeve cap
Developing a cuff with cuff guard

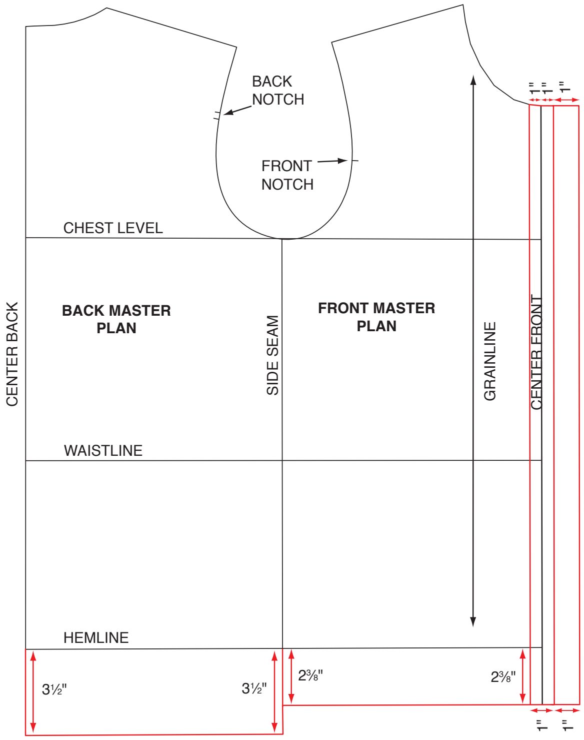
STEP 1
DEVELOPING THE MASTER PLAN

Start by selecting the basic men's upper body sloper, or by drafting the basic sloper according to the instructions on page 40. Cut a large piece of drafting paper slightly longer than the length of the shirt you want to develop and transfer the shape of the sloper and all marks, labels, and instructions, following the directions on page 48.


BACK NOTCH
FRONT NOTCH
CHEST LEVEL
CENTER BACK
BACK MASTER PLAN
SIDE SEAM
FRONT MASTER PLAN
GRAINLINE
CENTER FRONT
WAISTLINE
HIP LEVEL

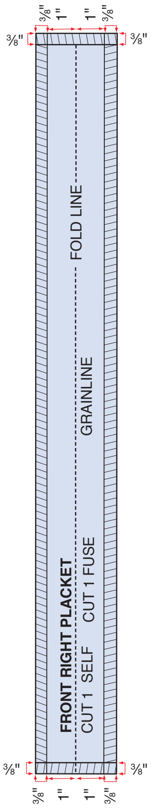
STEP 2
DEVELOPING THE LEFT PLACKET AND THE CONCEALED RIGHT PLACKET AND ADDING LENGTH TO THE BODY

- The hem shape in this design has a lowered back. On the front body extend the center front and side seam lines down 2⅜in from the hemline and square across.
- On the back body, extend the center back and side seam lines down 3½in from the hemline and square across.
- From the center front neck point measure back ½in along the neckline and mark, and measure out ½in and mark. Repeat this at the new hemline and connect these points with straight lines. This will become the right placket width of 1in.
- From the outer line measure out another 1in at the neckline and mark; repeat at the hemline and join these points with straight lines. This will become the underside of the placket.


BACK NOTCH
FRONT NOTCH
CHEST LEVEL
CENTER BACK
BACK MASTER PLAN
SIDE SEAM
FRONT MASTER PLAN
GRAINLINE
CENTER FRONT
WAISTLINE
HEMLINE
3½"
3½"
2⅜"
2⅜"
1"
1"
1"
1"
1"

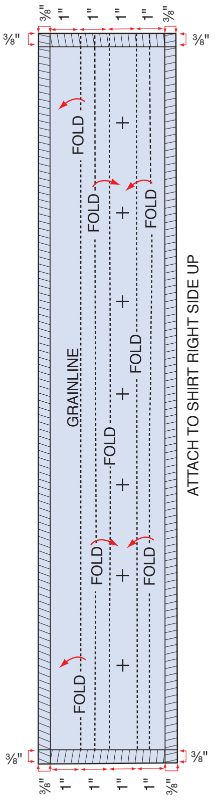
STEP 3
FRONT RIGHT PLACKET PATTERN

- Following the instructions on page 50, trace off the placket shape you have just developed onto a separate piece of paper, adding ⅜in seam allowance on all sides to create the final front right placket pattern.


⅜"
1"
1"
⅜"
⅜"
⅜"
FOLD LINE
GRAINLINE
FRONT RIGHT PLACKET
CUT 1 SELF
CUT 1 FUSE
⅜"
⅜"
⅜"
1"
1"
⅜"

STEP 4
CONCEALED LEFT PLACKET PATTERN

- Trace off the placket shape from the front body twice more and position the two plackets side by side. Add ⅜in seam allowance on all sides to create the final left placket pattern. The concealed placket is made by folding the placket together in the directions indicated by the arrows.


⅜"
1"
1"
1"
1"
⅜"
⅜"
⅜"
FOLD
FOLD
FOLD
GRAINLINE
FOLD
FOLD
FOLD
FOLD
FOLD
ATTACH TO SHIRT RIGHT SIDE UP
⅜"
⅜"
⅜"
1"
1"
1"
1"
⅜"

CONCEALED LEFT PLACKET
CUT 1 SELF
CUT 1 FUSE

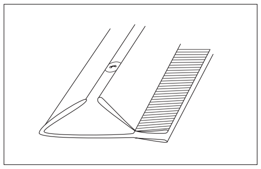
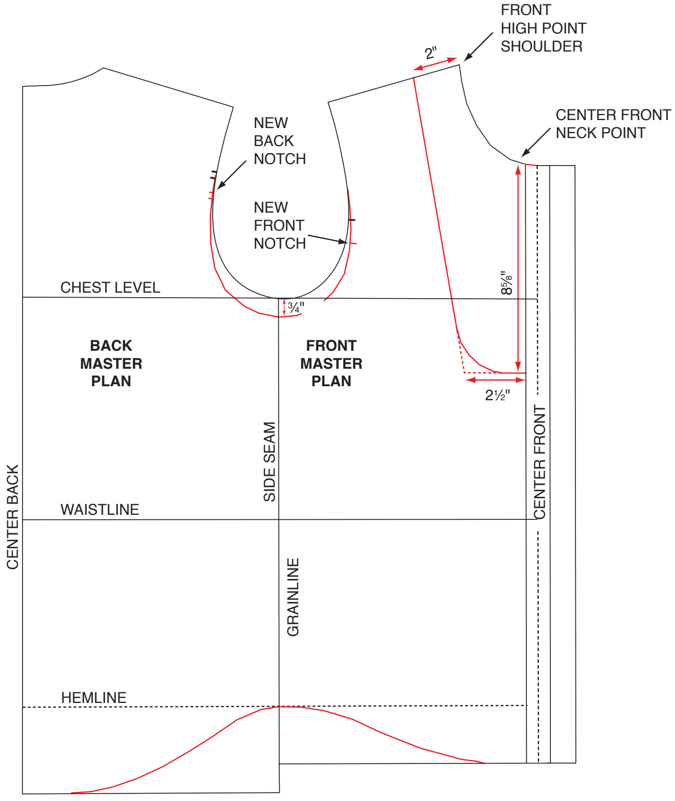


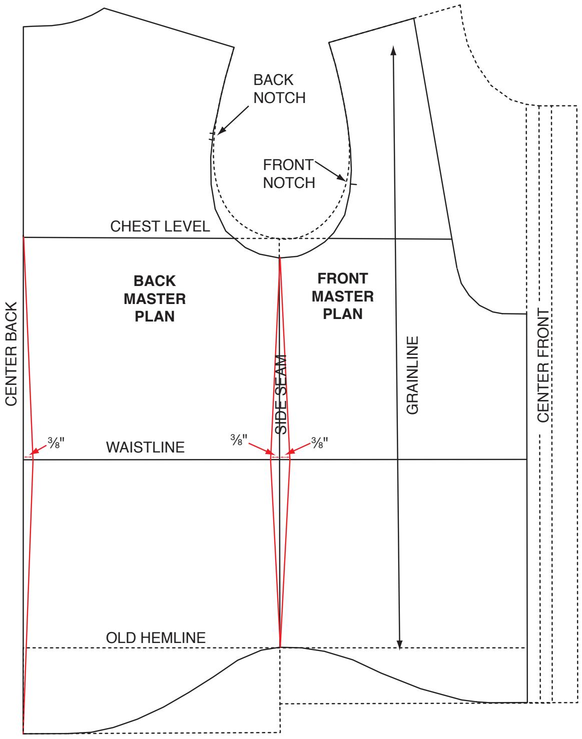
ILLUSTRATION OF THE END OF THE FOLDED CONCEALED PLACKET

STEP 5
DEVELOPING THE NEW ARMHOLE, BIB, AND HEM SHAPING

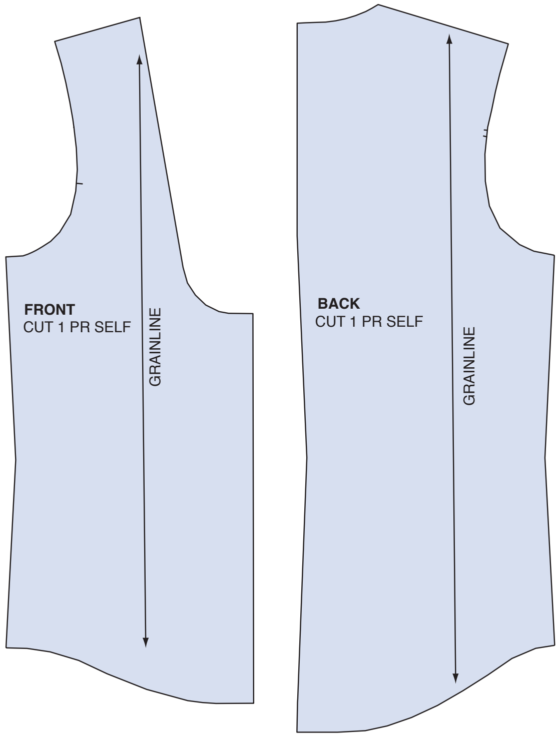

FRONT HIGH POINT SHOULDER
2"
CENTER FRONT NECK POINT
NEW BACK NOTCH
NEW FRONT NOTCH
8⅝"
CHEST LEVEL
¾"
BACK MASTER PLAN
FRONT MASTER PLAN
2½"
SIDE SEAM
CENTER FRONT
CENTER BACK
WAISTLINE
GRAINLINE
HEMLINE

- Measure ¾in down the side seam and make a mark. From this position on the front and back master plan, using your basic upper body slopers as a template, trace the new lowered armhole shape, continuing it up to connect with the shoulders. Transfer the back and front notches to their new positions on the lowered armhole.
- The bib shape is developed on the front body master plan by measuring 8⅝in down from the center front neck point, then squaring across 2½in.
- Next measure 2in down the front shoulder seam from the front high point shoulder. Connect this point to the line you drew previously. Draw in a shallow curve connecting the two lines at the bottom.
- Redraw the hemline with a French curve from the new lowered center front up to the side seam on the original hemline and back down to the lowered hemline at the center back.

STEP 6
DEVELOPING THE BODY SHAPING


BACK NOTCH
FRONT NOTCH
CHEST LEVEL
BACK MASTER PLAN
FRONT MASTER PLAN
CENTER BACK
SIDE SEAM
GRAINLINE
CENTER FRONT
⅜"
WAISTLINE
⅜"
⅜"
OLD HEMLINE

- To develop the side seam, measure out ⅜in in both directions where the side seam intersects the waistline.
- Connect both these points with straight lines up to the new underarm / side seam corner and down to the hemline at the bottom of the side seam.
- From the center back measure ⅜in along the waistline. From this point draw a straight line to the intersection of the chest level and the center back, and another line down to the new hemline.



STEP 7
FRONT PATTERN

- Following the instructions on page 50, trace off the front body pattern.

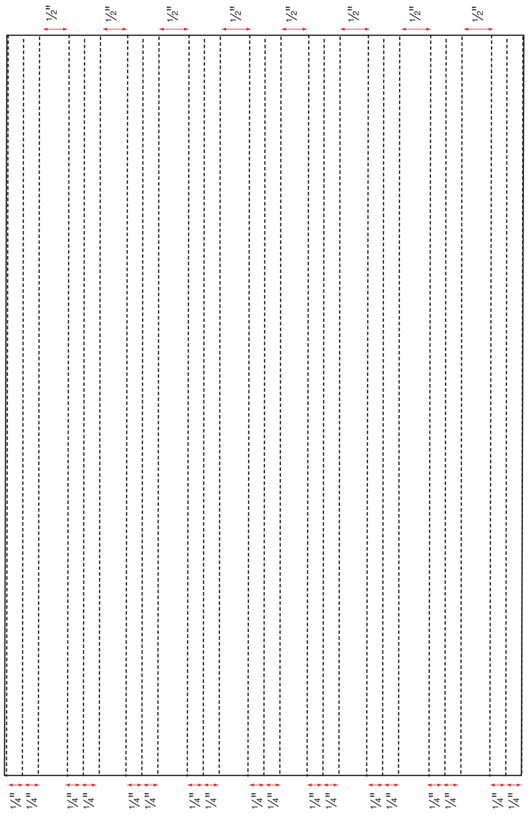
STEP 8
BACK PATTERN

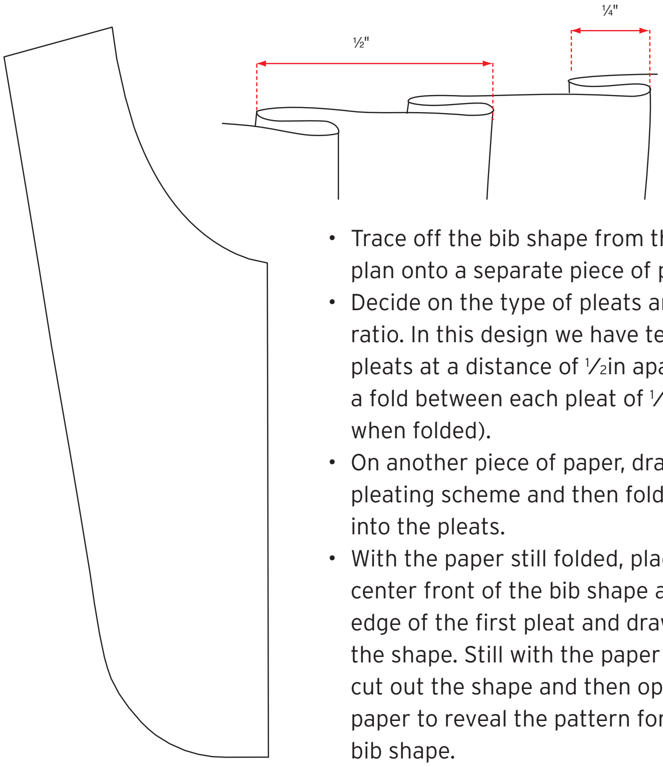
- Following the instructions on page 50, trace off the back body pattern.

STEP 9
DEVELOPING THE PLEATED BIB PANEL

Pleating

In a production scenario pleating would always be sourced from a professional pleater. The fabric would arrive pre-pleated to your requirements, at which stage the patterns for the pleated panels would be cut. The steps described here show how you can investigate pleating ratios yourself.

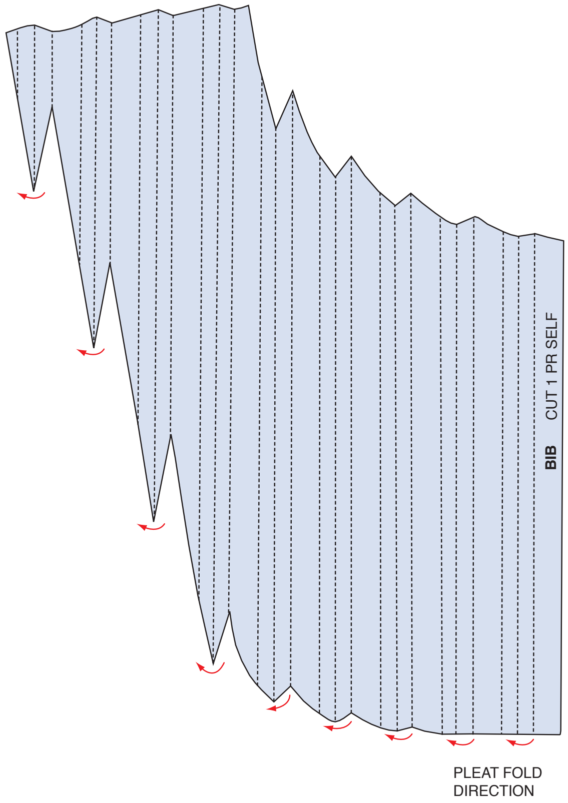




- Trace off the bib shape from the master plan onto a separate piece of paper.
- Decide on the type of pleats and their ratio. In this design we have ten knife pleats at a distance of 1⁄2in apart, with a fold between each pleat of 1⁄2in (1⁄4in when folded).
- On another piece of paper, draw out the pleating scheme and then fold the paper into the pleats.
- With the paper still folded, place the center front of the bib shape against the edge of the first pleat and draw around the shape. Still with the paper folded, cut out the shape and then open up the paper to reveal the pattern for the pleated bib shape.

STEP 10
PLEATED BIB PATTERN

- Following the instructions on page 50, trace around the pleated shape to create the bib pattern.



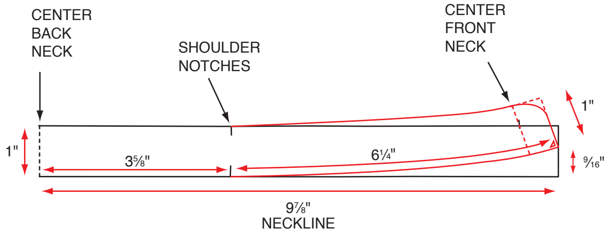
STEP 11
DEVELOPING THE MANDARIN COLLAR

Measuring half the neck from the master plan

We will develop half the collar before creating the full collar. By taking measurements from the master plan, which is drawn in half, you will be measuring half the neck measurement.

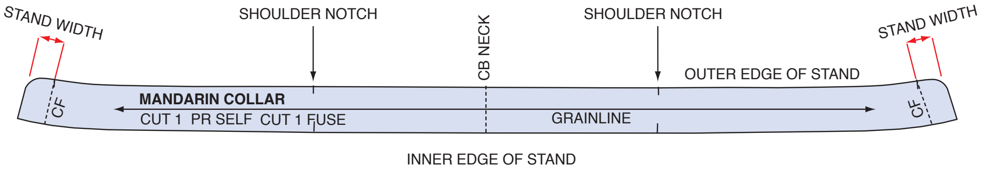
- On the master plan measure the length of the back neck, in this case $3\frac{5}{8}$in, and the front neck from the shoulder tip down past the center front line to the point at which the placket finishes, in this case $6\frac{1}{4}$in.
- Add these two measurements together to give half the neck measurement, in this case $9\frac{7}{8}$in.

- On a new piece of piece of paper, draw a rectangle measuring $9\frac{7}{8}$in by 1in, which is the half neck measurement by the width of the mandarin collar. Label the narrow side as the *center back neck* and the long side as the *neckline*.
- From the center back neck, measure $3\frac{5}{8}$in (the half back neck measurement) along the bottom line of the rectangle and place a notch. Label it the *shoulder notch*. Repeat along the top line of the rectangle.
- Measure up $\frac{9}{16}$in at the front edge of the rectangle and join this new point back to the shoulder notch with a slight curve.
- From the shoulder notch, measure $6\frac{1}{4}$in (the half front neck measurement) along this curved line. At the front of the curved line, square up 1in (the width of the mandarin collar). Then draw another curved line to connect this line back to the top shoulder notch.
- From the top right corner of the stand measure along 1in (the width of the placket) and from this point square across to the lower curved line. Label this *center front neck*. Round off the top right corner with a slight curve.



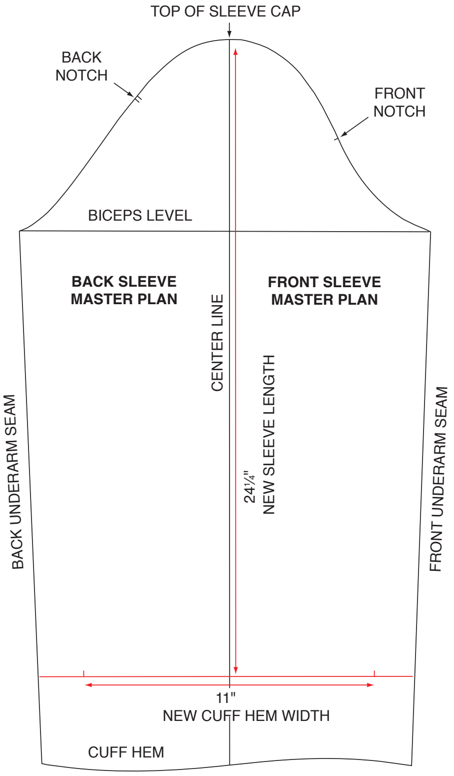
STEP 12
MANDARIN COLLAR PATTERN

- Trace off the mandarin collar onto a new piece of paper and, following the instructions on page 50, create the full pattern shape.


STAND WIDTH
SHOULDER NOTCH
CB NECK
SHOULDER NOTCH
STAND WIDTH
OUTER EDGE OF STAND
CF
MANDARIN COLLAR
CUT 1 PR SELF CUT 1 FUSE
GRAINLINE
CF
INNER EDGE OF STAND

STEP 13
DEVELOPING THE SLEEVE MASTER PLAN

Start this development by selecting the basic men's sleeve sloper, or by drafting the basic sleeve sloper according to the instructions on page 42. Cut a large piece of drafting paper slightly longer than the length of the shirt you want to develop and transfer the shape of the sloper and all marks, labels, and instructions, following the directions on page 48. The design illustrated is shaped and has a gathered tuck on the back of the sleeve for even more shaping. The sleeve sloper that you have selected might be longer or shorter than the design you are developing. Analyze it by taking a measurement from your fit model or dress form and by consulting the size chart, or even by using competitors' garments for comparison. The sleeve length is 24¼in and the cuff measurement is calculated by adding 1³⁄₁₆in to the wrist measurement of 9⁷⁄₈in for a tuck, making 11in.

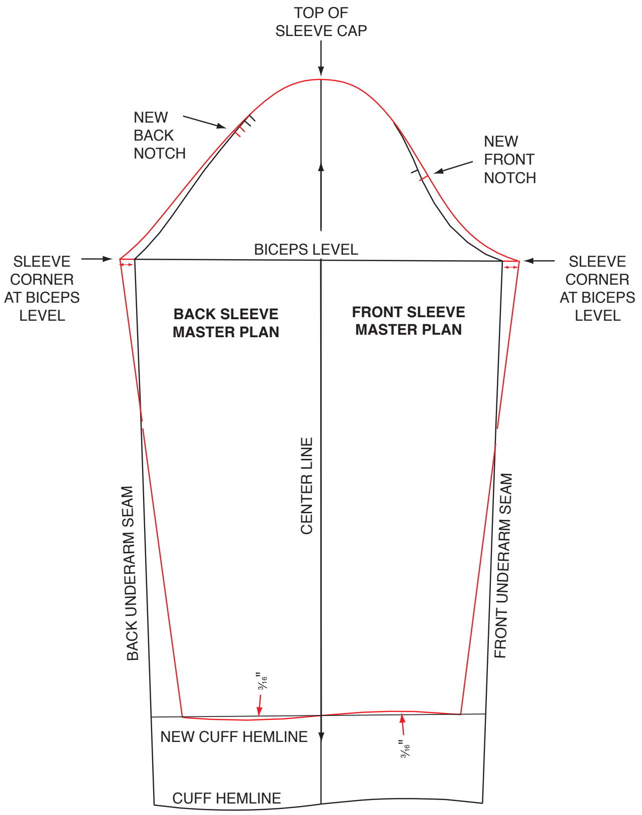

TOP OF SLEEVE CAP
BACK NOTCH
FRONT NOTCH
BICEPS LEVEL
BACK SLEEVE MASTER PLAN
FRONT SLEEVE MASTER PLAN
CENTER LINE
24¼"
NEW SLEEVE LENGTH
BACK UNDERARM SEAM
FRONT UNDERARM SEAM
11"
NEW CUFF HEM WIDTH
CUFF HEM

STEP 14

DEVELOPING THE SLEEVE FOR A LOWERED ARMHOLE

Having enlarged the sleeve circumference in Step 5, you will need to check the length of the sleeve cap and increase according to the new armhole measurement.

Start by measuring the front and back of the new armhole on the upper body slopers (in this case 10in and 10⁷⁄₈in respectively). Add these measurements together (20⁷⁄₈in) and then measure the sleeve cap (20¹⁄₈in). The sleeve cap, therefore, needs to be increased by ³⁄₄in and not beyond, allowing for the amount of ease.

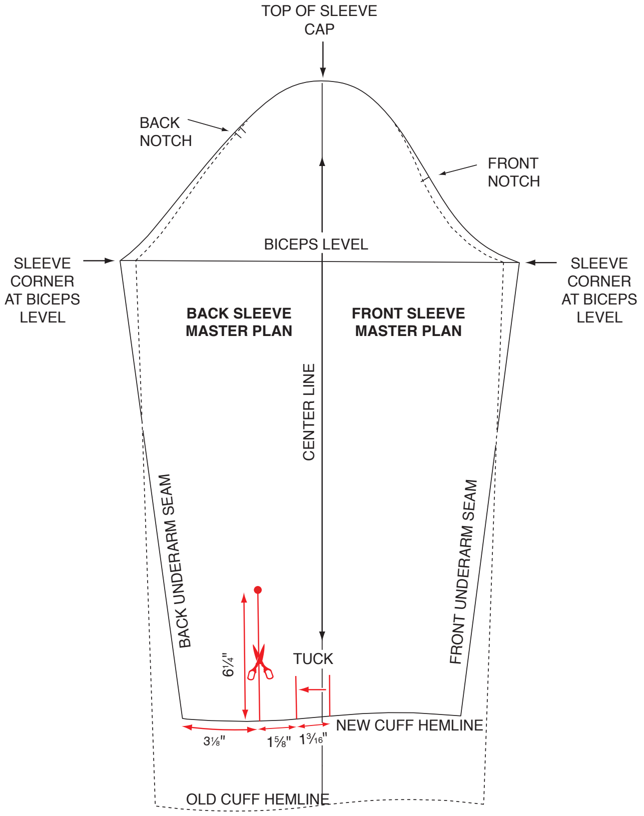

TOP OF SLEEVE CAP
NEW BACK NOTCH
NEW FRONT NOTCH
SLEEVE CORNER AT BICEPS LEVEL
BICEPS LEVEL
SLEEVE CORNER AT BICEPS LEVEL
BACK SLEEVE MASTER PLAN
FRONT SLEEVE MASTER PLAN
CENTER LINE
BACK UNDERARM SEAM
FRONT UNDERARM SEAM
³⁄₁₆"
NEW CUFF HEMLINE
³⁄₁₆"
CUFF HEMLINE

- Extend the biceps level out ⁹⁄₁₆in on both sides so that the new sleeve cap measures 20⁷⁄₈in, the same measurement as the new armhole.
- Using the basic sleeve sloper as a template, redraw the new sleeve cap shape, and indicate the new lowered notch positions.
- To create the shaping at the bottom of the sleeve, measure down ³⁄₁₆in on the back sleeve from the center of the new cuff hemline and mark this point. On the front sleeve, measure up ³⁄₁₆in from the center of the new cuff hemline and mark this point. Join the points with a curved line that is convex on the back sleeve and then reverses at the center line so that it is concave on the front.
- Now draw in the new underarm seam lines to create the sleeve shape.

STEP 15

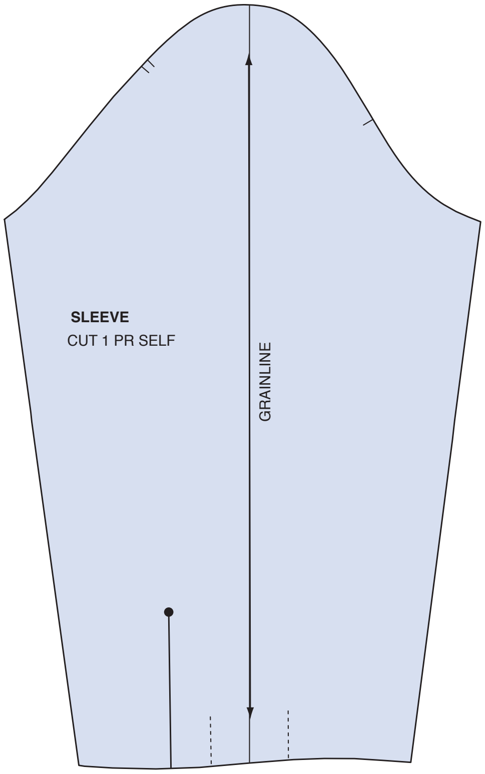
DEVELOPING THE SLEEVE

- From the back underarm seam line measure in 3¹⁄₈in along the new cuff hem and square up 6¹⁄₄in. This is the cut line for the cuff guard. Measure in a further 1⁵⁄₈in and mark, then a further 1³⁄₁₆in and mark. This will become the tuck.


TOP OF SLEEVE CAP
BACK NOTCH
FRONT NOTCH
SLEEVE CORNER AT BICEPS LEVEL
BICEPS LEVEL
SLEEVE CORNER AT BICEPS LEVEL
BACK SLEEVE MASTER PLAN
FRONT SLEEVE MASTER PLAN
CENTER LINE
BACK UNDERARM SEAM
FRONT UNDERARM SEAM
6¹⁄₄"
TUCK
NEW CUFF HEMLINE
3¹⁄₈"
1⁵⁄₈"
1³⁄₁₆"
OLD CUFF HEMLINE

STEP 16
SLEEVE PATTERN

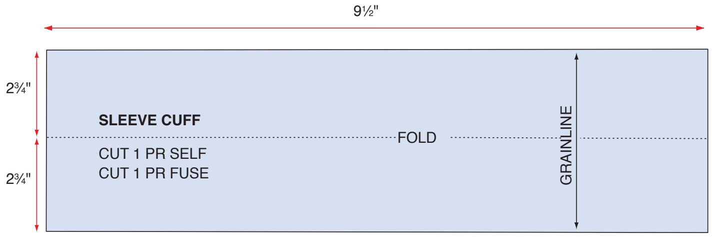
- Following the instructions on page 50, trace off the sleeve pattern.


SLEEVE
CUT 1 PR SELF
GRAINLINE

STEP 17
DEVELOPING THE CUFF

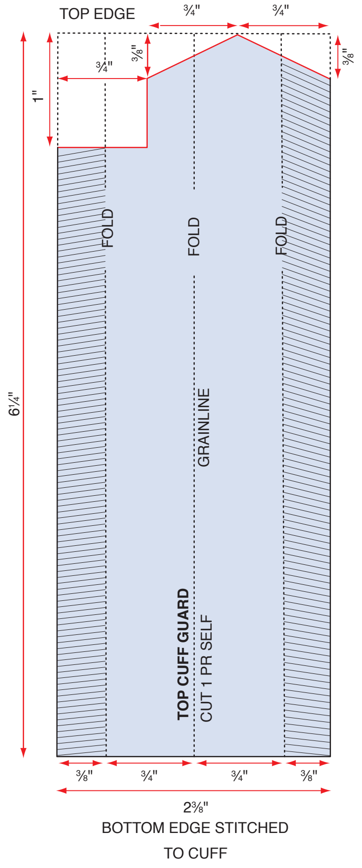
Measuring the cuff
The cuff is a double pattern piece that is sewn onto the end of the sleeve and turned inside out. The cuff shape will start and finish at the guard opening. Measure this width from the pattern (11in) and deduct 1³⁄₁₆in for the tuck and ³⁄₈in for the seam allowance on the cuff guard opening, making 9½in.

- On a separate piece of paper, draw a box 9½in long by 5½in wide to create a rectangular-shaped cuff.
- Divide the box in half lengthways, draw a line across the center, and label it *fold*.


9½"
2¾"
2¾"
SLEEVE CUFF
CUT 1 PR SELF
CUT 1 PR FUSE
FOLD
GRAINLINE

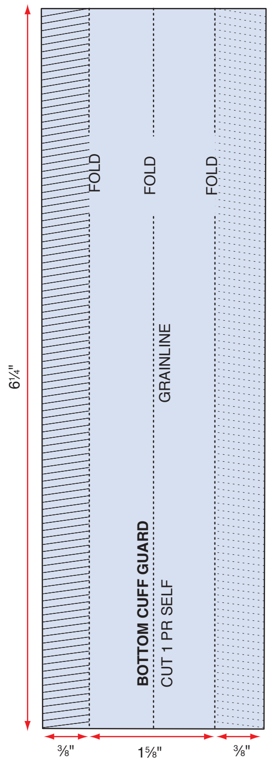
STEP 18
DEVELOPING THE TOP CUFF GUARD

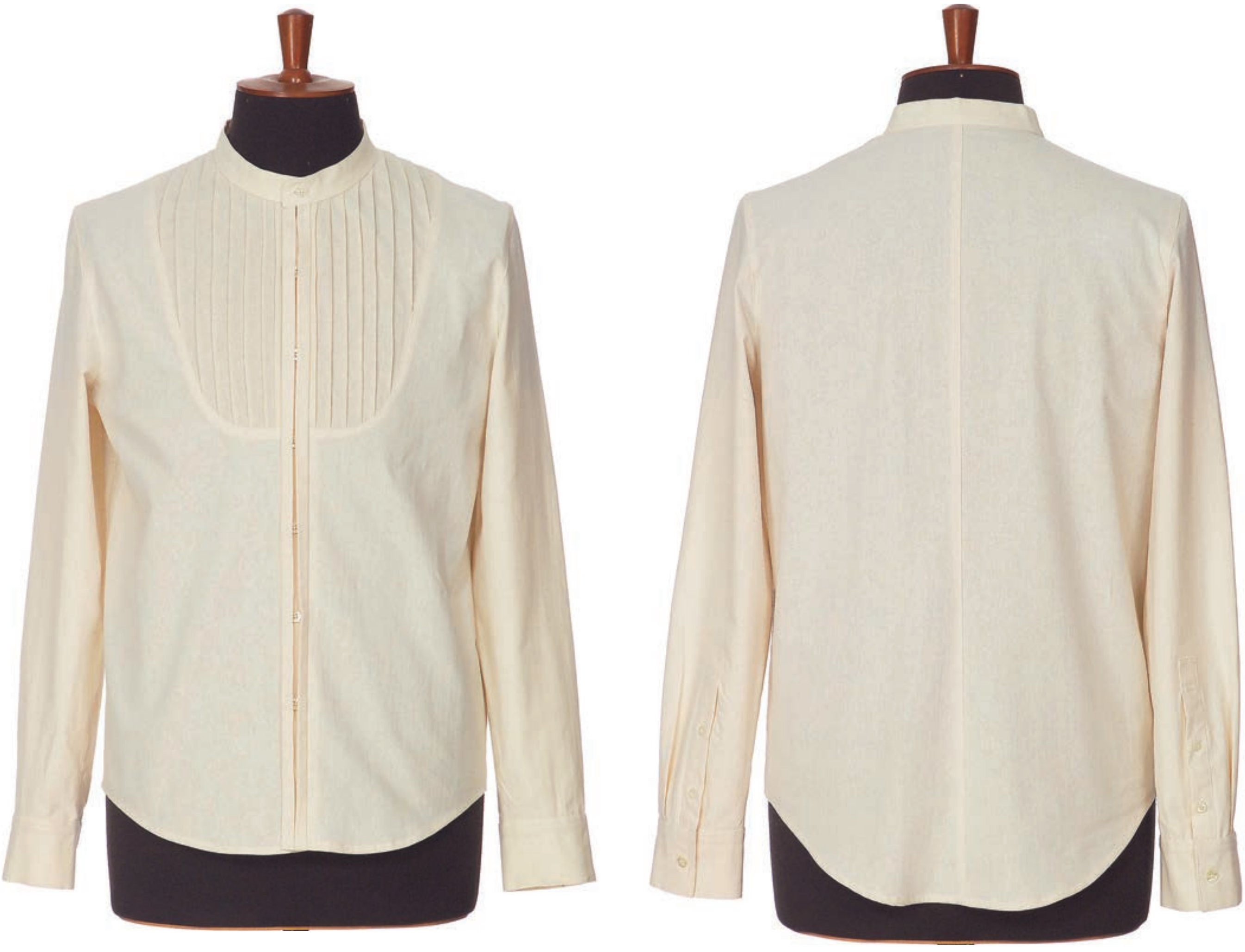
- On a separate piece of paper create a rectangular box 6¼in long by 2⅜in wide.
- Divide the box in half lengthways, draw down the center, and label it *fold*.
- At each end square out ¾in up and ¾in down from the fold line and mark. Join these points with straight lines. This will leave you with a ⅜in seam allowance on each long side.
- From the top left corner measure 1in down the long side of the rectangle and square across ¾in. This small rectangular shape will be removed from the pattern.
- From the top right corner measure ⅜in down the long side of the rectangle and mark, and measure ¾in across the short side and mark. Join these points with an angled line.
- Now measure ⅜in down along the right edge of the rectangle you drew in the top left corner and join this point to the top of the first angled line to give a pointed shape to the top of the cuff guard.


TOP EDGE
¾"
¾"
¾"
⅜"
⅜"
1"
6¼"
FOLD
FOLD
FOLD
GRAINLINE
TOP CUFF GUARD
CUT 1 PR SELF
⅜"
¾"
¾"
⅜"
2⅜"
BOTTOM EDGE STITCHED
TO CUFF

STEP 19
DEVELOPING THE BOTTOM CUFF GUARD

- Create a rectangular box 6¼in by 2⅜in.
- Divide the box in half lengthways, draw a line down the center, and label it *fold*.
- At each end square out ¾in up and ¾in down from the fold line and mark. Join these points with straight lines. This will leave you with a ⅜in seam allowance on each long side.


6¼"
FOLD
FOLD
FOLD
GRAINLINE
BOTTOM CUFF GUARD
CUT 1 PR SELF
⅜"
1⅝"
⅜"

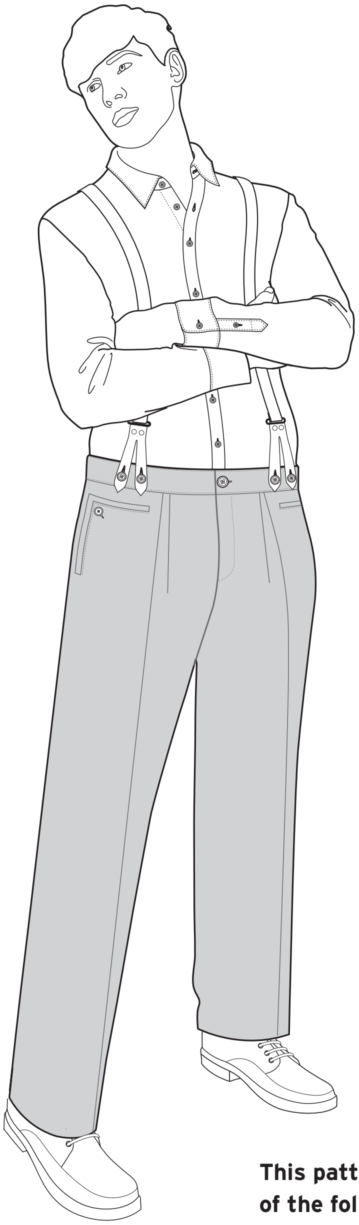


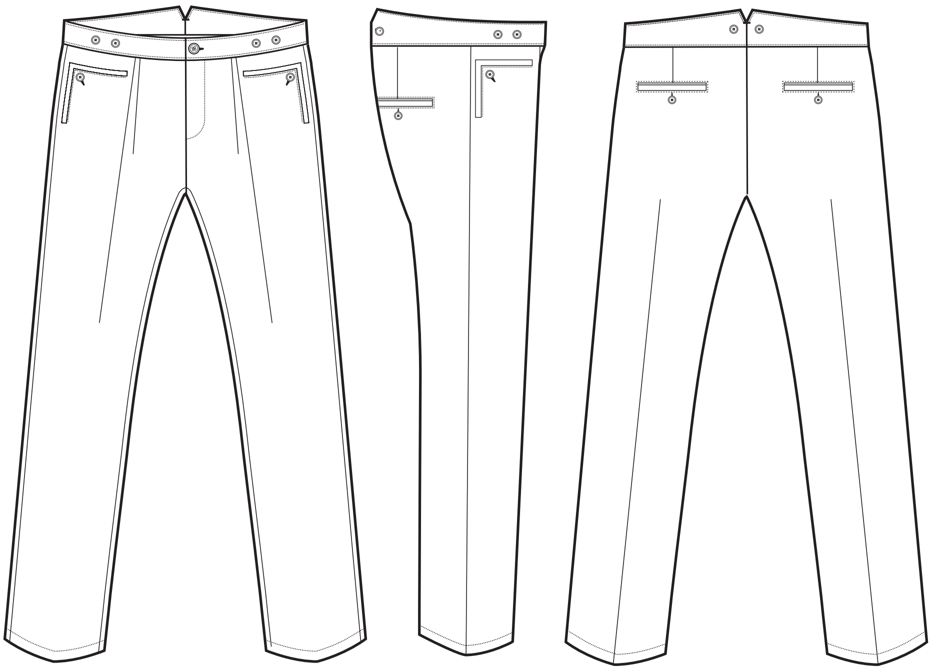
CHAPTER FOUR

THE PATTERNS: PANTS

PATTERN

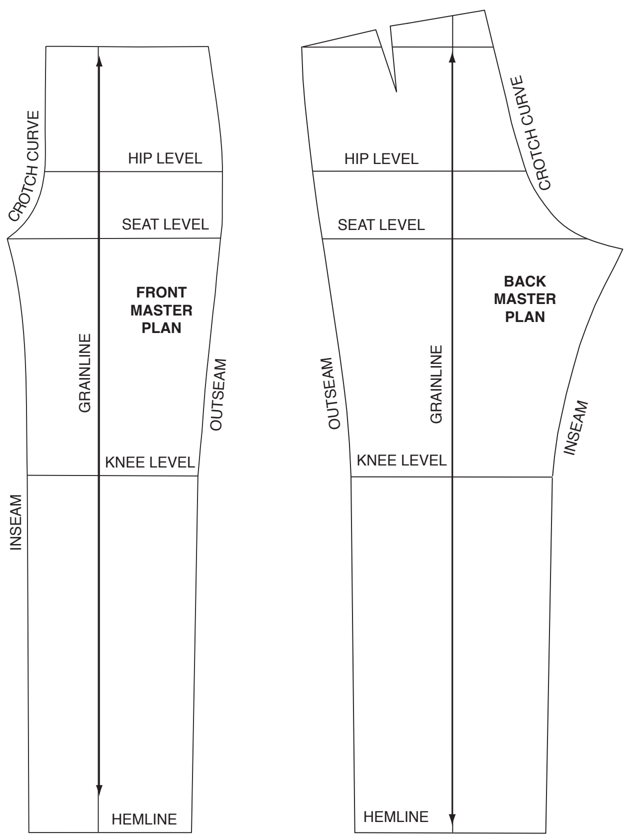
HIGH-WAISTED PANTS





This pattern includes development of the following features:

Front pleats
Straight legs
Fly, fly facing, and fly extension
Front right-angled welted pockets
Back welted pockets
Notched waistband



CROTCH CURVE
HIP LEVEL
SEAT LEVEL
FRONT MASTER PLAN
GRAINLINE
OUTSEAM
KNEE LEVEL
INSEAM
HEMLINE
HIP LEVEL
CROTCH CURVE
SEAT LEVEL
BACK MASTER PLAN
OUTSEAM
GRAINLINE
INSEAM
KNEE LEVEL
HEMLINE

STEP 1

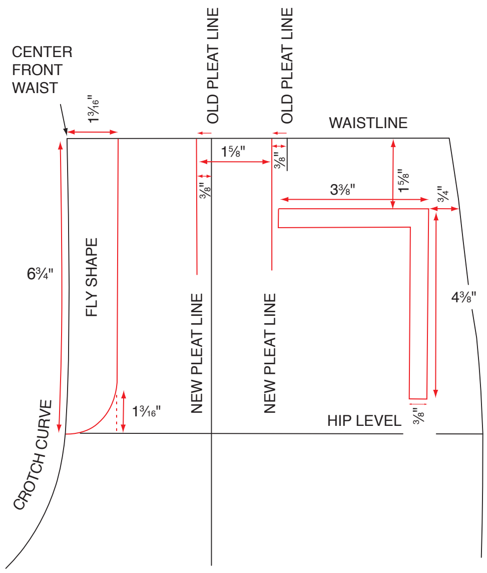
DEVELOPING THE MASTER PLAN

Start by selecting the basic men's pant sloper, or by drafting the basic pant sloper according to the instructions on page 45. Cut a large piece of drafting paper slightly longer than the pant you want to develop and transfer the shape of the sloper and all marks, labels, and instructions following the directions on page 49.

STEP 2

DEVELOPING THE FRONT RIGHT-ANGLED WELTED POCKET AND FLY SHAPE AND MOVING THE PLEATS

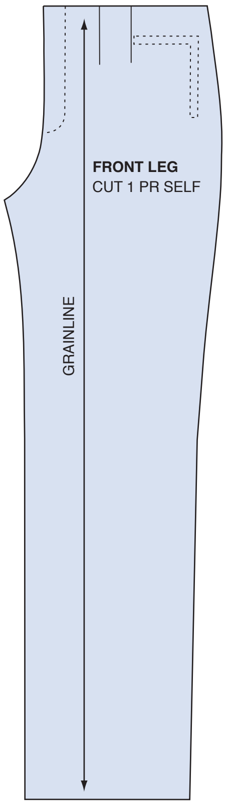
- Move the pleat lines 3/8in toward the center front along the waistline. Redraw and notch.
- Measure 1 5/8in down from the waistline and 3/4in in from the outseam and mark. From this point square down 4 3/8in, and from the same point continue across 3 3/8in toward the center front, creating a right-angled shape. Measure in 3/8in from the vertical line and draw a parallel right-angled shape to make the width of the welt opening. Square off at both ends.
- To create the fly shape, measure in 1 3/16in from the center front waist point and square down 6 3/4in. At the bottom of this line measure 1 3/16in back up and make a mark; draw a curved line from this point back down to the crotch curve.


CENTER FRONT WAIST
1 3/16"
OLD PLEAT LINE
OLD PLEAT LINE
WAISTLINE
1 5/8"
3/8"
3/8"
3 3/8"
1 5/8"
3/4"
6 3/4"
FLY SHAPE
NEW PLEAT LINE
NEW PLEAT LINE
4 3/8"
1 3/16"
HIP LEVEL
3/8"
CROTCH CURVE

STEP 3

FRONT LEG PATTERN

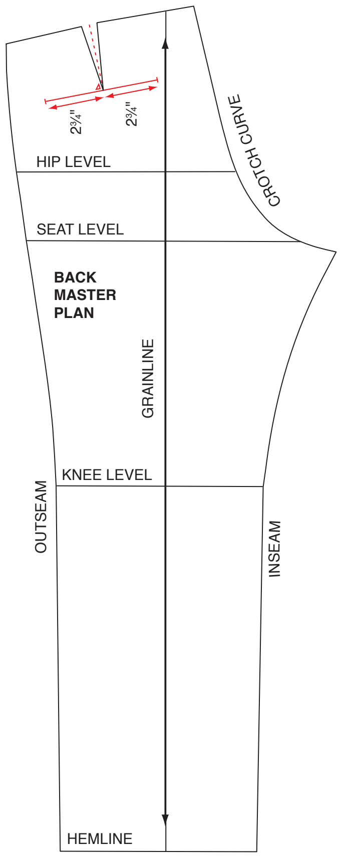
- Following the instructions on page 50, trace off the front pant leg pattern.


FRONT LEG
CUT 1 PR SELF
GRAINLINE

STEP 4

DEVELOPING THE BACK WELTED POCKET POSITION

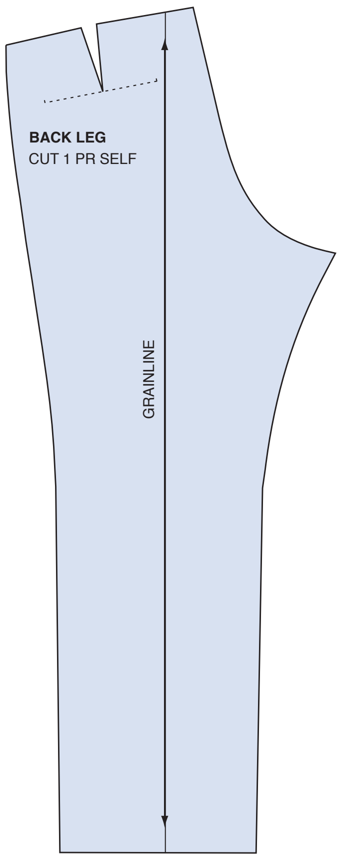
- From the bottom of the back waist dart square out 2 3/4in to each side. This will become the pocket opening.


2 3/4"
2 3/4"
HIP LEVEL
CROTCH CURVE
SEAT LEVEL
BACK MASTER PLAN
GRAINLINE
KNEE LEVEL
OUTSEAM
INSEAM
HEMLINE

STEP 5

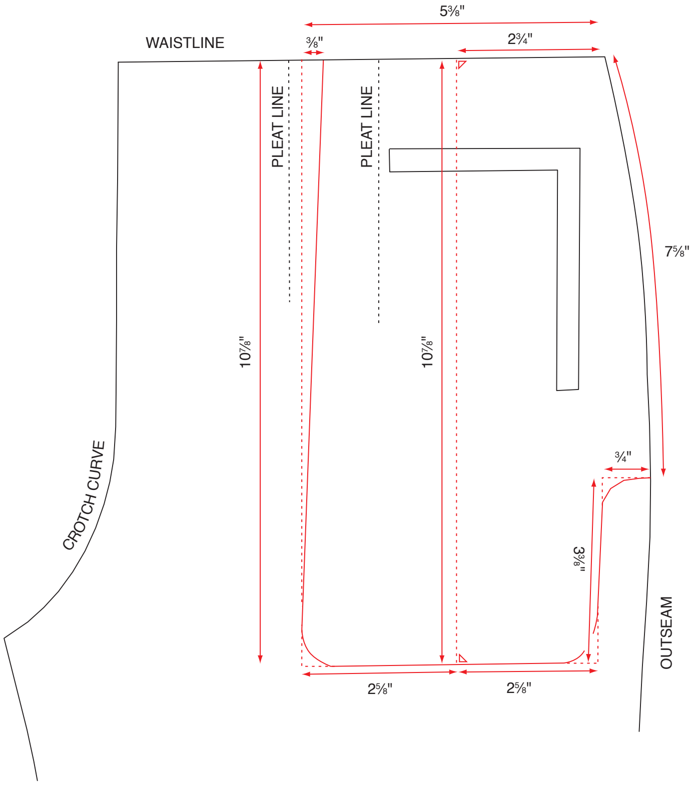
BACK LEG PATTERN

- Following the instructions on page 50, trace off the back pant leg pattern.


BACK LEG
CUT 1 PR SELF
GRAINLINE

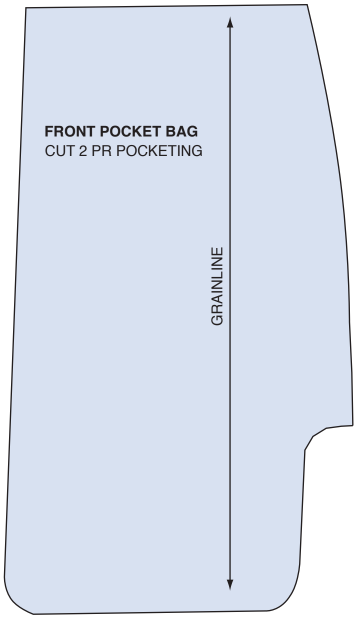
STEP 6
DEVELOPING THE FRONT POCKET BAG

- Measure 2¾in from the outseam along the waistline and mark; square down 10⅞in and mark.
- From the bottom of this line square out 2⅝in toward the center front and mark, and from the outseam measure in 5⅜in along the waistline and mark. Draw a line between these two points. This is the side pocket seam. From the bottom of the first line square out 2⅝in toward the outseam; from here square up 3⅜in and then square out ¾in to meet the outseam. This point is 7⅝in from the waistline, measured along the outseam.
- To create a slight angle to the side of the pocket bag, at the top of the pocket measure ⅜in back along the waistline toward the outseam and redraw the side pocket seam.
- Round off all the corners.


5⅜"
WAISTLINE
⅜"
2¾"
PLEAT LINE
PLEAT LINE
7⅝"
10⅞"
10⅞"
¾"
CROTCH CURVE
3⅜"
OUTSEAM
2⅝"
2⅝"

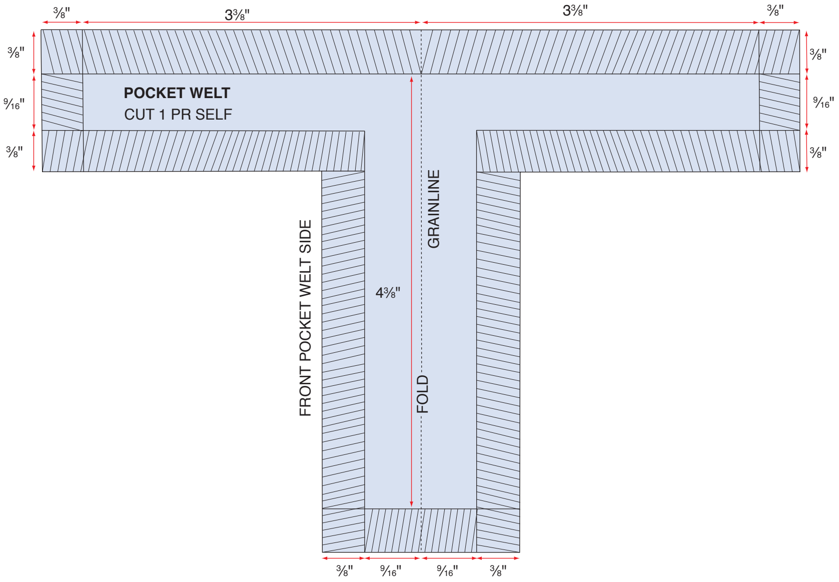
STEP 7
FRONT POCKET BAG PATTERN

- Following the instructions on page 50, trace off the front pocket bag pattern.


FRONT POCKET BAG
CUT 2 PR POCKETING
GRAINLINE

STEP 8
DEVELOPING THE WELT SHAPE OF THE FRONT RIGHT-ANGLED POCKET

- The shape of the welt is developed on a fold so that a seam is not needed on all sides and will resemble a T shape.
- Draw a 4⅜in vertical line (the length of the pocket) down the center of a piece of paper. This is the fold line.
- From the bottom of the line square out ⁹⁄₁₆in on each side. This is the width of the welt.
- At the top of the line square out 3⅜in on each side (the width of the pocket opening).
- From the end of each line square down ⁹⁄₁₆in and mark; square in from these points, ending ⁹⁄₁₆in from the fold, and mark. Square down and complete the end of the welt.
- Add a ⅜in seam allowance to all sides of the shape to create the final pattern.

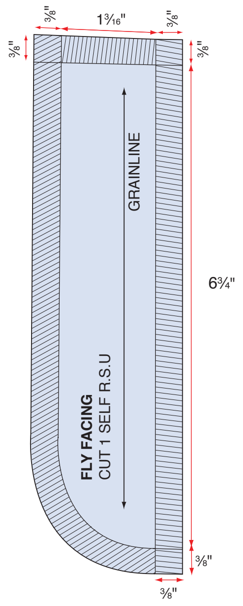

⅜"
3⅜"
3⅜"
⅜"
⅜"
⁹⁄₁₆"
⅜"
⅜"
⁹⁄₁₆"
⅜"
POCKET WELT
CUT 1 PR SELF
GRAINLINE
FRONT POCKET WELT SIDE
4⅜"
FOLD
⅜"
⁹⁄₁₆"
⁹⁄₁₆"
⅜"

STEP 9
FLY FACING PATTERN

Zippers

When developing the fly length it is important to select a zipper that is ⅜-⁹⁄₁₆in shorter than the fly facing shape.

- Following the instructions on page 50, trace off the front fly facing pattern, adding a ⅜in seam allowance to all sides.

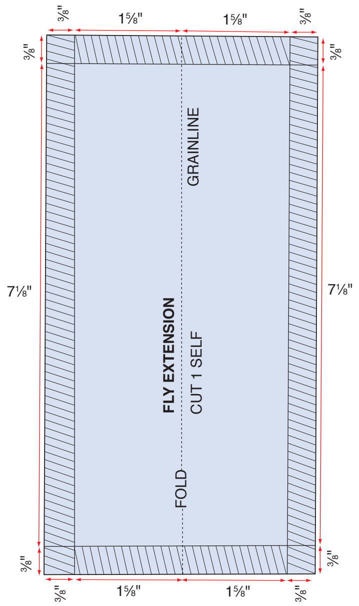

⅜"
1³⁄₁₆"
⅜"
⅜"
⅜"
GRAINLINE
6¾"
FLY FACING
CUT 1 SELF R.S.U
⅜"
⅜"

STEP 10
DEVELOPING THE FLY EXTENSION

Fly extension

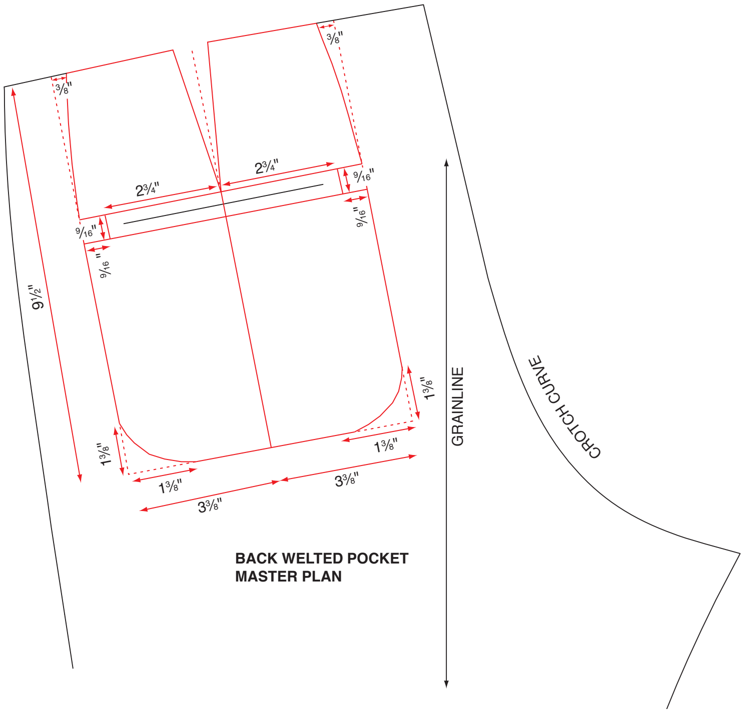
The fly extension is attached to the right side of the center front and sits behind the left fly facing. The facing shape is ⅜in longer to cover the bulk of the zipper end.

- On a separate piece of paper, draw a vertical box 7⅛in long by 3⅛in wide to create the rectangular-shaped fly extension.
- Divide the box in half lengthways, draw a line down the center, and label it *fold*. Add a ⅜in seam allowance on all sides.



STEP 11
DEVELOPING THE BACK WELTED POCKET AND BAG

- The welt opening is developed at the tip of the waist dart. The pocket bag is then drawn over the back leg pattern and traced off to make individual patterns.
- From the center of the dart at the waistline draw a 9½in perpendicular line down through the dart tip and make a mark; from this point square out 3⅜in on each side and mark. From these points square back up to the waistline to create a rectangle. This is the basic shape of the pocket bag.
- From the bottom of the dart square out 2¾in on each side and mark; from these points square down 9/16in and mark. Connect these points to create a rectangular shape. This is the welt opening, which sits 9/16in from each outside seam of the pocket bag.
- To shape the pocket bag measure ⅜in in along the waistline on each side and mark. Connect these points with a shallow curve back to the outside seams of the bag. From each bottom corner of the bag measure up 1⅜in and in 1⅜in and join these points with a curved line.



BACK WELTED POCKET
MASTER PLAN

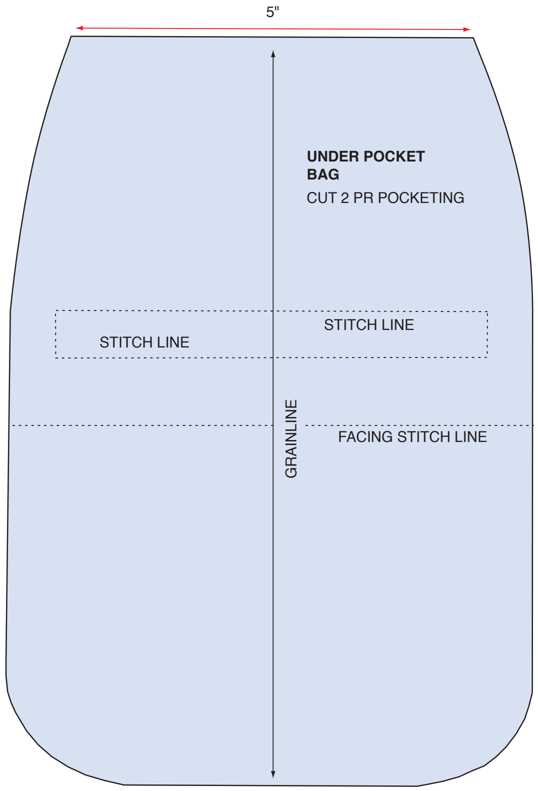
STEP 12

UNDER POCKET BAG PATTERN (BACK WELTED POCKET)

Pocket construction

This pocket design has a self-facing strip sewn to the back of the bag so that when the pocket is open the pocketing material is not seen.

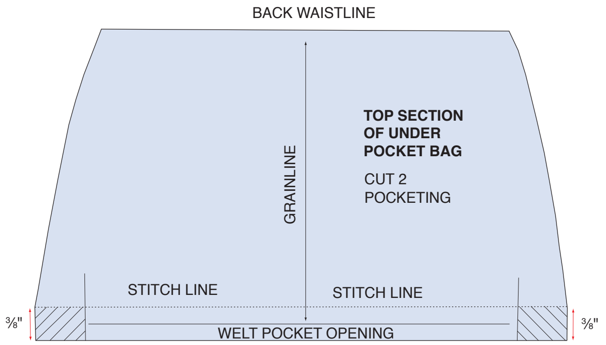
- When tracing this pattern you need to remove the dart. Following the instructions on page 50, trace off the top pocket bag pattern by placing the center grainline on one side of the dart leg and drawing around one side of the top of the pattern before moving the grainline to the other dart leg and drawing around the other side.
- Reposition the grainline back to the center of the dart and continue to draw the remainder of the pocket bag and welt shape.

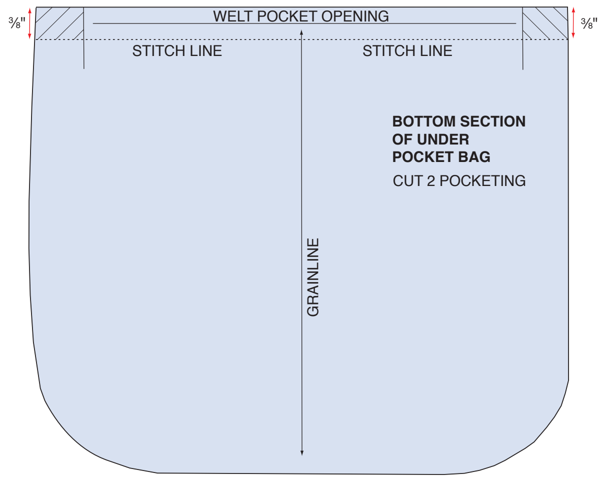

5"
UNDER POCKET BAG
CUT 2 PR POCKETING
STITCH LINE
STITCH LINE
GRAINLINE
FACING STITCH LINE

STEP 13

TOP SECTION OF UNDER POCKET BAG PATTERN (BACK WELTED POCKET)

- Following the instructions on page 50, trace this pattern from the waistline to the top stitch line of the welt opening, adding a ³⁄₈in seam allowance to the lower edge.


BACK WAISTLINE
GRAINLINE
TOP SECTION OF UNDER POCKET BAG
CUT 2 POCKETING
STITCH LINE
STITCH LINE
⅜"
WELT POCKET OPENING
⅜"


⅜"
WELT POCKET OPENING
⅜"
STITCH LINE
STITCH LINE
BOTTOM SECTION OF UNDER POCKET BAG
CUT 2 POCKETING
GRAINLINE

STEP 14

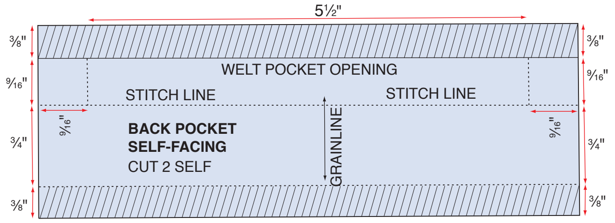
BOTTOM SECTION OF UNDER POCKET BAG PATTERN (BACK WELTED POCKET)

- Following the instructions on page 50, trace this pattern from the lower stitch line of the welt opening, adding a ³⁄₈in seam allowance to the top edge.

STEP 15

DEVELOPING THE BACK POCKET SELF-FACING STRIP

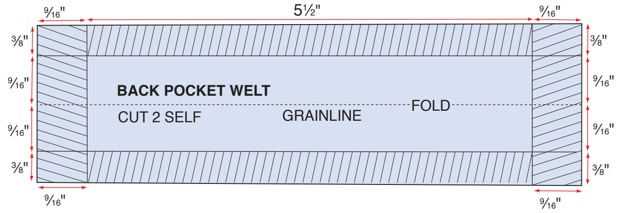
- Trace the welt opening from the back pant leg, adding 9⁄16in to each end. Measure down 3⁄4in at each end of the lower edge of this rectangular shape to create a larger rectangle measuring 63⁄4in x 13⁄8in. Add a 3⁄8in seam allowance to the top and bottom edges to create the final pattern.


5½"
⅜"
9⁄16"
¾"
⅜"
WELT POCKET OPENING
STITCH LINE
STITCH LINE
9⁄16"
BACK POCKET
SELF-FACING
CUT 2 SELF
GRAINLINE
9⁄16"
⅜"
9⁄16"
¾"
⅜"

STEP 16

DEVELOPING THE BACK POCKET WELT STRIP

- On a separate piece of paper, draw a horizontal box 51⁄2in long by 11⁄8in wide to create the rectangular welt strip. Divide the box in half lengthways, draw a line across the center, and label it *fold*.
- Add a 9⁄16in seam allowance to each of the shorter sides and a 3⁄8in seam allowance to the longer sides.


9⁄16"
5½"
9⁄16"
⅜"
9⁄16"
9⁄16"
⅜"
BACK POCKET WELT
CUT 2 SELF
GRAINLINE
FOLD
⅜"
9⁄16"
9⁄16"
⅜"
9⁄16"
9⁄16"

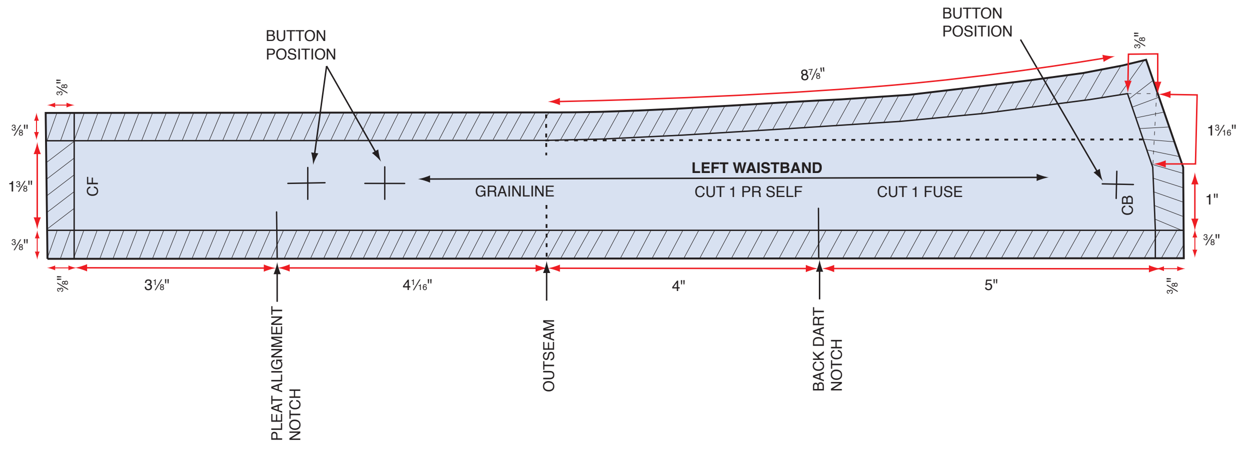
STEP 17

DEVELOPING THE LEFT SIDE OF THE WAISTBAND

- Draw a horizontal rectangle 163⁄8in long (half the length of the full waist measurement) by 13⁄8in wide (the depth of the waistband). Label the left-hand side *center front* and the right-hand side *center back*.
- Add alignment notches for the front pleat by measuring 31⁄8in in from the center front. Continue measuring 41⁄16in toward the outseam, and a further 4in along mark the back pleat alignment notch.
- Develop the notch shape by measuring 1in up the center back and then a further 13⁄16in and mark. Square in 3⁄8in and mark. Connect these two points with an angled line and draw a curved line from the top back to the outseam notch.
- Add a 3⁄8in seam allowance to all sides to create the final pattern.

Notched waistband

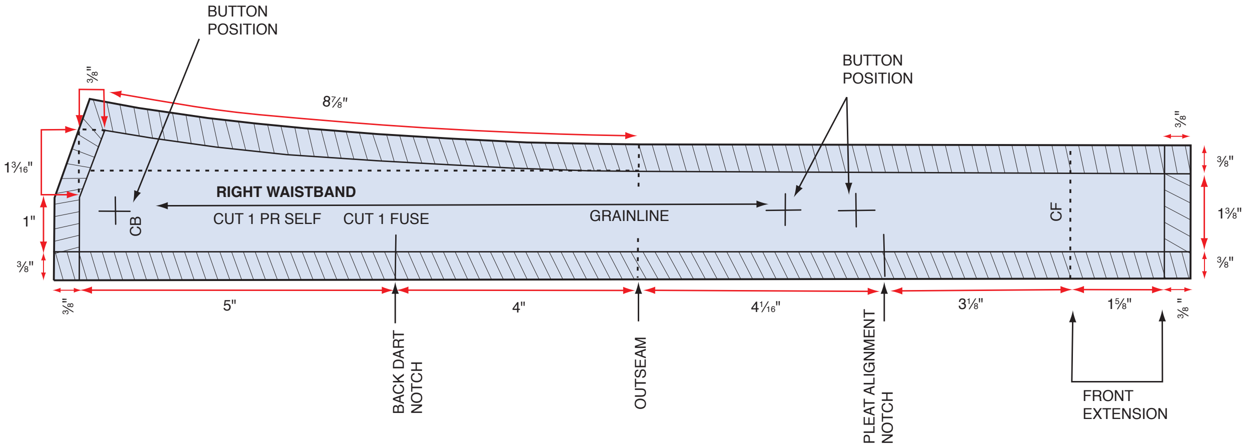
This waistband design has a notched center back that is reminiscent of traditional tailoring, and buttons for the attachment of suspenders.

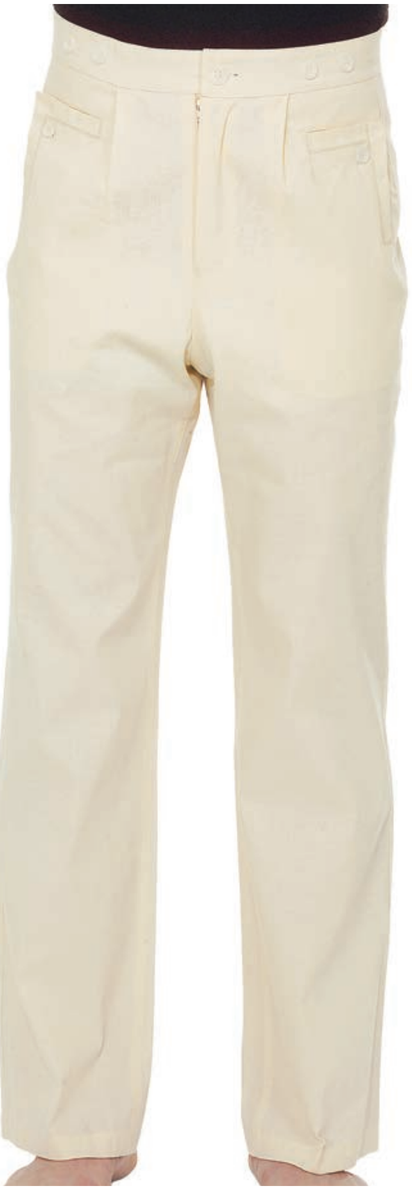

BUTTON
POSITION
BUTTON
POSITION
8⅞"
⅜"
⅜"
⅜"
1⅜"
⅜"
CF
GRAINLINE
LEFT WAISTBAND
CUT 1 PR SELF
CUT 1 FUSE
CB
1³⁄16"
1"
⅜"
⅜"
3⅛"
4¹⁄16"
4"
5"
⅜"
PLEAT ALIGNMENT
NOTCH
OUTSEAM
BACK DART
NOTCH

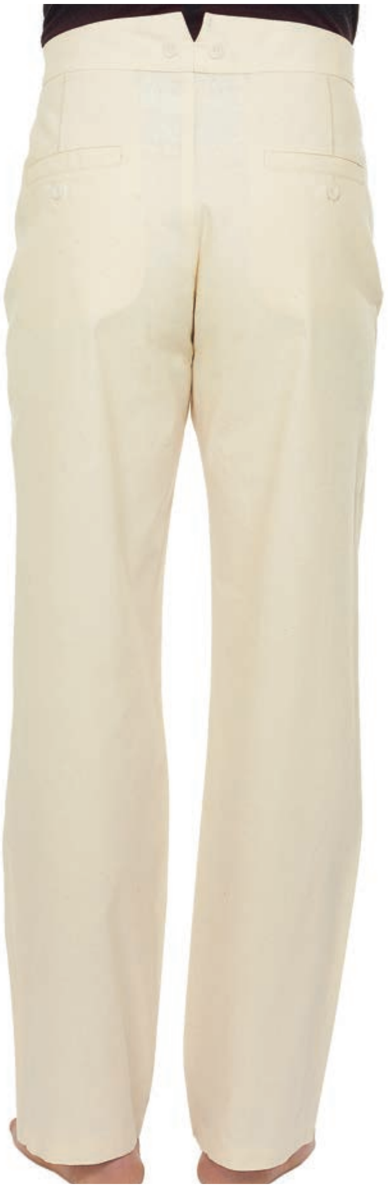
STEP 18

DEVELOPING THE RIGHT SIDE OF THE WAISTBAND

- Repeat the steps above, but work with the center front on the right and the center back on the left, or trace the left-hand side and mirror.
- Add the 1⅝in fly extension to the center front then add a ⅜in seam allowance to all sides to create the final pattern.

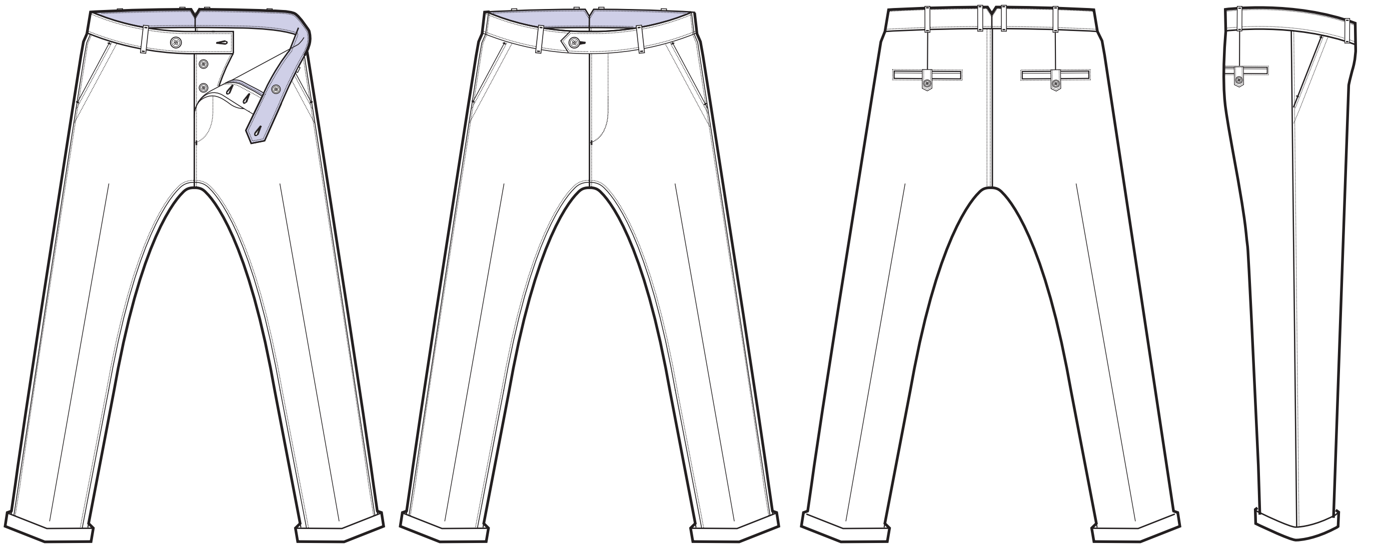

BUTTON POSITION
⅜"
8⅞"
BUTTON POSITION
⅜"
1³⁄₁₆"
RIGHT WAISTBAND
CB
CUT 1 PR SELF
CUT 1 FUSE
GRAINLINE
CF
1"
⅜"
⅜"
1⅜"
⅜"
⅜"
5"
4"
4¹⁄₁₆"
3⅛"
1⅝"
⅜"
BACK DART NOTCH
OUTSEAM
PLEAT ALIGNMENT NOTCH
FRONT EXTENSION





PATTERN

CHINOS



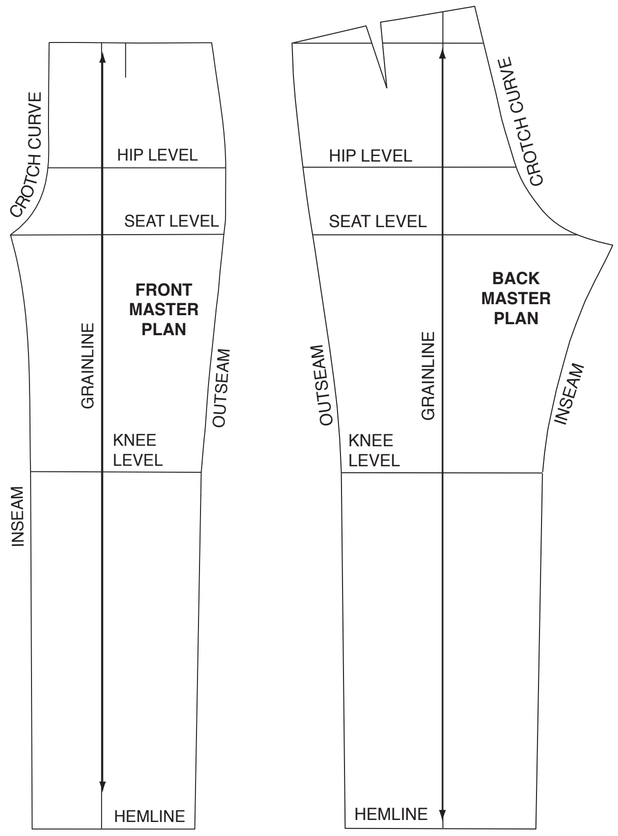
This pattern includes development of the following features:

Angled center front waist and crotch curve
Angled center back waist
Dropped crotch
Straight legs
Front fly, fly facing, and button stand and bearer
Angled side pockets
Back welted pockets
Notched waistband with front tab

STEP 1

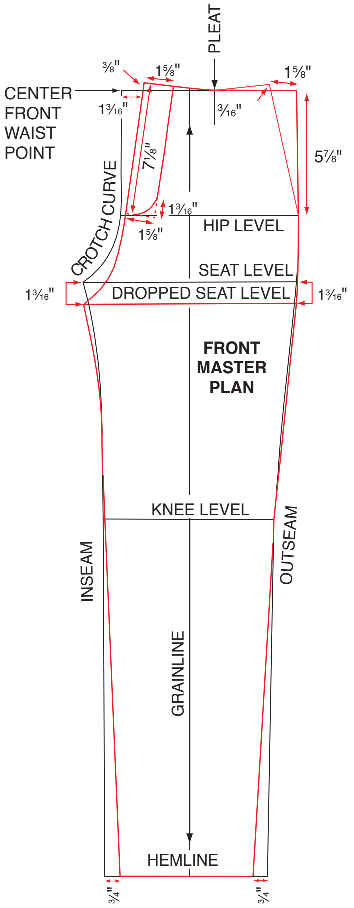
DEVELOPING THE MASTER PLAN

Start by selecting the basic men's pant sloper, or by drafting the basic pant sloper according to the instructions on page 45. Cut a large piece of drafting paper slightly longer than the pant you want to develop and transfer the shape of the sloper and all marks, labels, and instructions following the directions on page 49.


CROTCH CURVE
HIP LEVEL
SEAT LEVEL
FRONT MASTER PLAN
GRAINLINE
OUTSEAM
KNEE LEVEL
INSEAM
HEMLINE
HIP LEVEL
CROTCH CURVE
SEAT LEVEL
BACK MASTER PLAN
OUTSEAM
GRAINLINE
INSEAM
KNEE LEVEL
HEMLINE

STEP 2
DEVELOPING THE DROPPED CROTCH, FRONT FLY, ANGLED CENTER FRONT WAIST, AND FRONT ANGLED POCKET OPENING

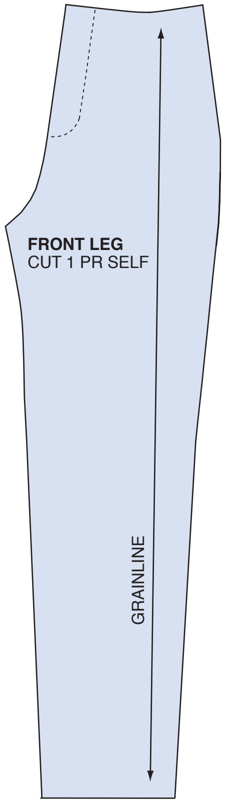
- Drop the seat level down $1\frac{3}{16}$in from the original seat level and redraw the bottom of the crotch curve and the inseam and outseam.
- Taper the hem in $\frac{3}{4}$in on both seams and redraw the lines back up to give the pant a slimmer profile.
- Remove the $1\frac{5}{8}$in pleat volume by angling back the front crotch curve. To do this, measure in $1\frac{3}{16}$in from the center front waist point and from this point square up $\frac{3}{8}$in. Connect this point back down to the dropped crotch and redraw the new waistline with a shallow curve back to the outseam. The remaining $\frac{3}{8}$in will be taken out at the center back waist.
- To create the fly shape, measure in $1\frac{5}{8}$in from the new center front waist point and from here measure down $7\frac{1}{8}$in. At the bottom of this line measure $1\frac{3}{16}$in back up and make a mark; draw a curved line from this point back to the center front crotch curve.
- From the outseam waist point measure $1\frac{5}{8}$in toward the center front and $5\frac{7}{8}$in down the outseam and connect these two points to create the angled pocket opening. Extend the pocket opening line at the waistline by $\frac{3}{16}$in and redraw it, blending the line back to the waistline to enlarge the opening.



PLEAT
3/8"
1 5/8"
1 5/8"
CENTER FRONT WAIST POINT
1 3/16"
3/16"
7 1/8"
5 7/8"
CROTCH CURVE
1 3/16"
1 5/8"
HIP LEVEL
SEAT LEVEL
1 3/16"
DROPPED SEAT LEVEL
1 3/16"
FRONT MASTER PLAN
KNEE LEVEL
INSEAM
OUTSEAM
GRAINLINE
HEMLINE
3/4"
3/4"

Enlarging the angled pocket opening to accommodate the width of the hand

`The pocket opening must be enlarged to allow for different hand widths or the pockets will be too tight to use and stretching will occur.`



FRONT LEG
CUT 1 PR SELF
GRAINLINE

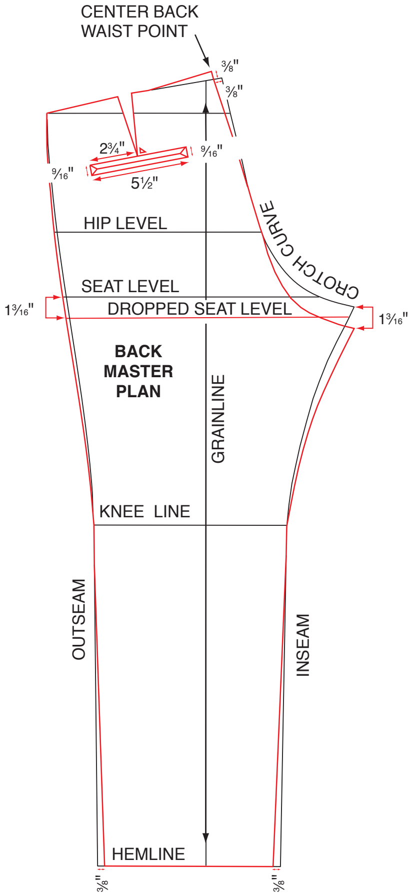
STEP 3
FRONT LEG PATTERN

- Following the instructions on page 50, trace off the front pant leg pattern.

STEP 4

DEVELOPING THE DROPPED CROTCH, ANGLED CENTER BACK WAIST, AND WELTED POCKET POSITION

- Drop the seat level down $1\frac{3}{16}$in from the original seat level and redraw the bottom of the crotch curve and the inseam and outseam.
- Taper the hem in $\frac{3}{8}$in on both seams and redraw the lines back up to give the pant a slimmer profile.
- From the center back waist point measure in $\frac{3}{8}$in and from this point measure up $\frac{3}{8}$in; redraw the shorter waistline and the longer back crotch curve.
- From the bottom of the dart square out $2\frac{3}{4}$in to each side. Create a rectangular box $\frac{9}{16}$in deep by $5\frac{1}{2}$in long.

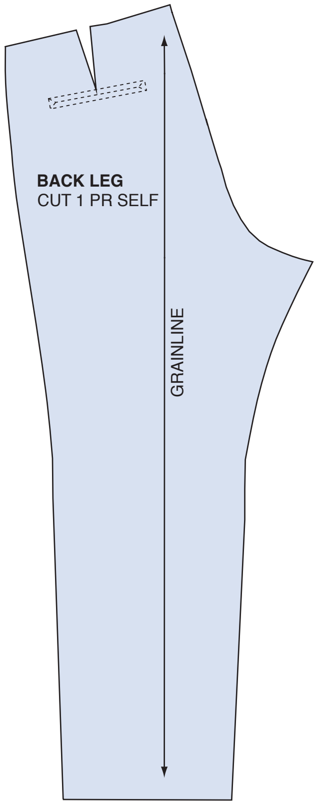


CENTER BACK WAIST POINT
⅜"
⅜"
2¾"
9⁄16"
9⁄16"
5½"
HIP LEVEL
CROTCH CURVE
SEAT LEVEL
1 3⁄16"
DROPPED SEAT LEVEL
1 3⁄16"
BACK MASTER PLAN
GRAINLINE
KNEE LINE
OUTSEAM
INSEAM
HEMLINE
⅜"
⅜"

STEP 5

BACK LEG PATTERN

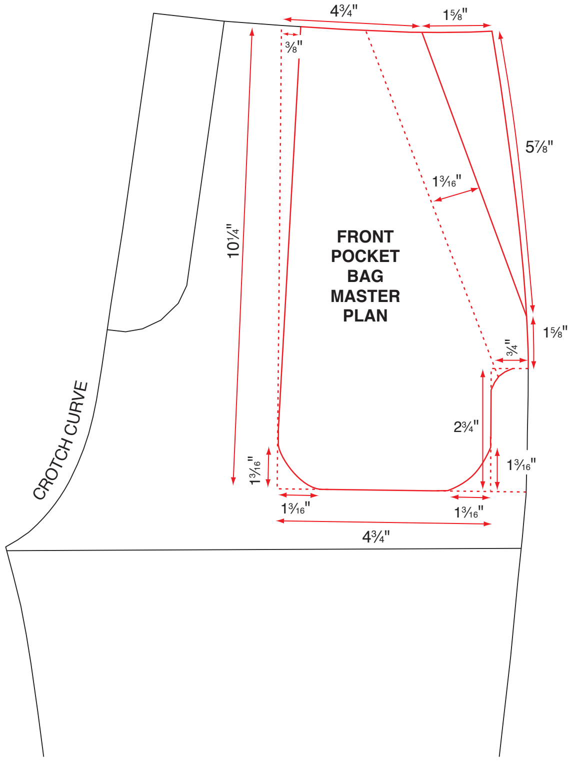
- Following the instructions on page 50, trace off the back pant leg pattern.



BACK LEG
CUT 1 PR SELF
GRAINLINE

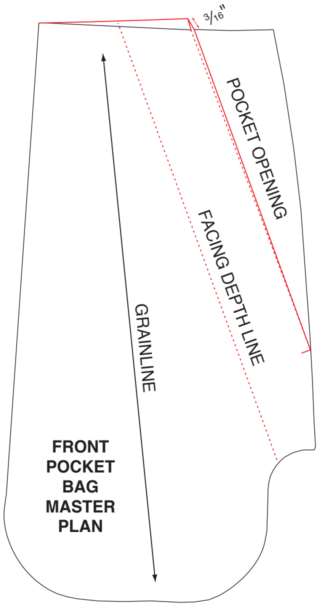
STEP 6
DEVELOPING THE FRONT POCKET BAG

- First recreate the original shape of the front pant leg master plan before the shape for the angled side pocket was removed and redraw the pocket opening from Step 2 (without the extension for the enlarged opening).
- Next create the pocket bag template by measuring 4¾in along the waistline from the top of the pocket opening to develop the pocket bag width. From this point square down 10¼in; this is the length of the pocket bag.
- From the bottom of the pocket opening on the outseam, to create a step, measure down 1⅝in and from this point measure in ¾in; from here measure down a further 2¾in and connect this point to the pocket length to close the bag shape.
- To create a slight angle to the side of the pocket bag, at the top of the pocket measure ⅜in back along the waistline toward the outseam and redraw the pocket length. At the bottom of the pocket, round off the corners (1³⁄₁₆in by 1³⁄₁₆in), and round off the step.
- Develop the pocket facing depth by measuring in 1³⁄₁₆in from the opening and connecting the waistline with the step using a parallel curved line.


4¾"
1⅝"
⅜"
5⅞"
1³⁄₁₆"
10¼"
FRONT POCKET BAG MASTER PLAN
1⅝"
¾"
2¾"
1³⁄₁₆"
1³⁄₁₆"
1³⁄₁₆"
1³⁄₁₆"
4¾"
CROTCH CURVE

STEP 7
DEVELOPING THE FRONT POCKET BAG MASTER PLAN

- Trace off the pocket bag shape with the facing depth line onto a separate piece of paper, extend the pocket opening line by ³⁄₁₆in, and redraw it, blending the line back to the top edge, as in Step 2.

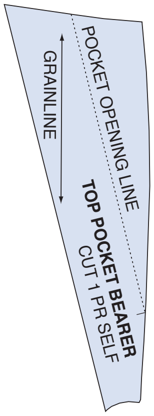

³⁄₁₆"
POCKET OPENING
FACING DEPTH LINE
GRAINLINE
FRONT POCKET BAG MASTER PLAN

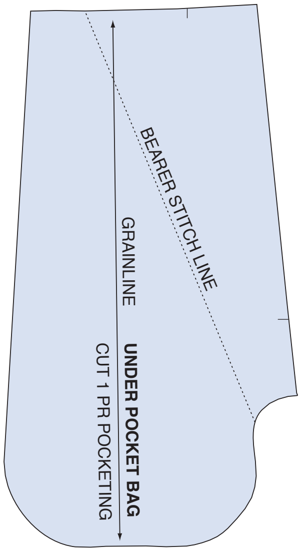
STEP 8
FRONT POCKET BAG COMPONENT PATTERNS

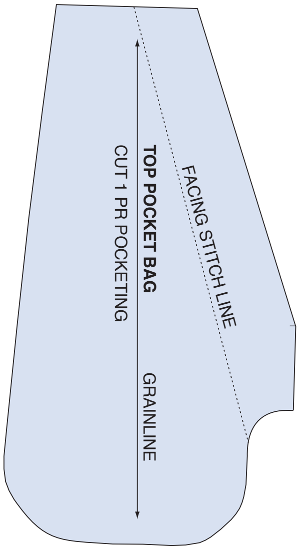
The pocket bearer

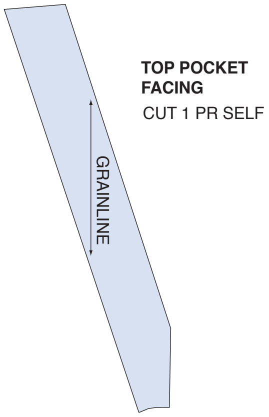
The pocket bearer is cut from the original fabric and is sewn to the under pocket bag, which is then sewn to the waistband and outseam behind the angled pocket opening. While the pocket opening was made longer in Step 2, the pocket bearer and under pocket bag will follow the original line of the waistline, holding the dimensions of the pocket parts together.

- Following the instructions on page 50, trace off the top pocket bag pattern and the top pocket facing from the latest development in Step 7, including the extended pocket opening. Trace off the pocket bearer and the under pocket bag without the additional shape formed by the extended pocket opening.


GRAINLINE
POCKET OPENING LINE
TOP POCKET BEARER
CUT 1 PR SELF

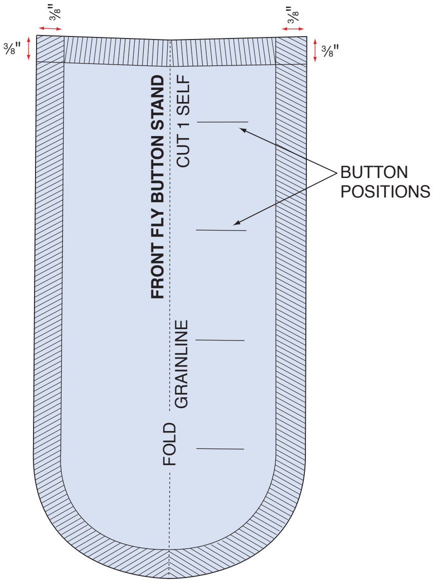

BEARER STITCH LINE
GRAINLINE
UNDER POCKET BAG
CUT 1 PR POCKETING

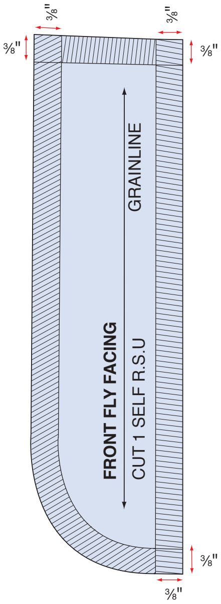

TOP POCKET BAG
CUT 1 PR POCKETING
FACING STITCH LINE
GRAINLINE


TOP POCKET FACING
CUT 1 PR SELF
GRAINLINE

STEP 9
DEVELOPING THE FRONT FLY BUTTON STAND AND FRONT FLY FACING

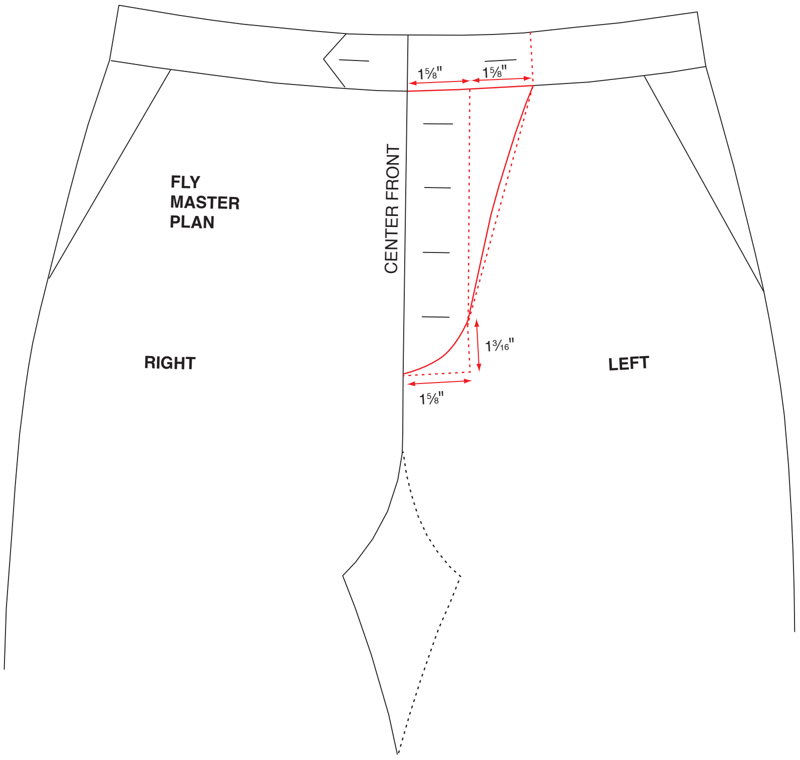
- Following the instructions on page 50, trace off the fly shape developed in Step 2 onto a separate piece of paper. Label the straight line, *fold*; flip the fly shape over along this line and mirror it to create a single pattern shape. Add a $^3/_8$in seam allowance to all sides.
- The pattern is folded along the straight line to give double thickness to the buttonholes once positioned.
- Trace off the single fly shape from the left side of the button stand to create the fly facing pattern.


⅜"
⅜"
⅜"
⅜"
FRONT FLY BUTTON STAND
CUT 1 SELF
BUTTON POSITIONS
FOLD
GRAINLINE


⅜"
⅜"
⅜"
⅜"
⅜"
⅜"
GRAINLINE
FRONT FLY FACING
CUT 1 SELF R.S.U

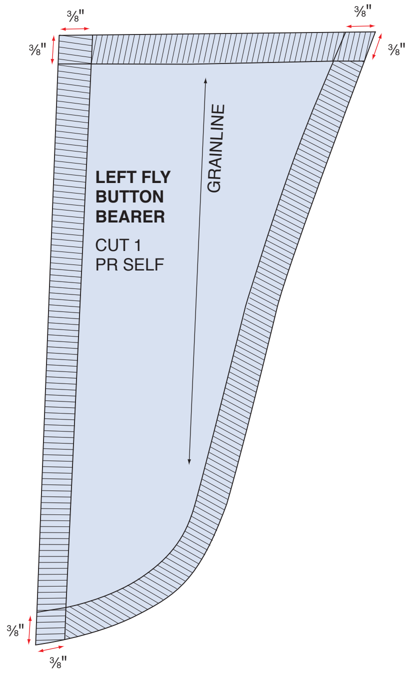
STEP 10
DEVELOPING THE FRONT FLY BUTTON BEARER

- Create a master plan to draw the shape of the front fly button bearer by placing the front leg patterns together at the center front and tracing around the outline.
- The button stand and fly facing are attached to the left pant leg and the button bearer is attached to the right pant leg. From the center front measure 1⅝in along the waistline of the left leg for the positioning of the buttons and a further 1⅝in for the overlap and make a mark.
- From the bottom of the fly curve draw across and up, slightly curving your line, to meet this point on the waistline.


1⅝"
1⅝"
FLY
MASTER
PLAN
CENTER FRONT
RIGHT
1³⁄₁₆"
LEFT
1⅝"

STEP 11
FRONT FLY BUTTON BEARER PATTERN

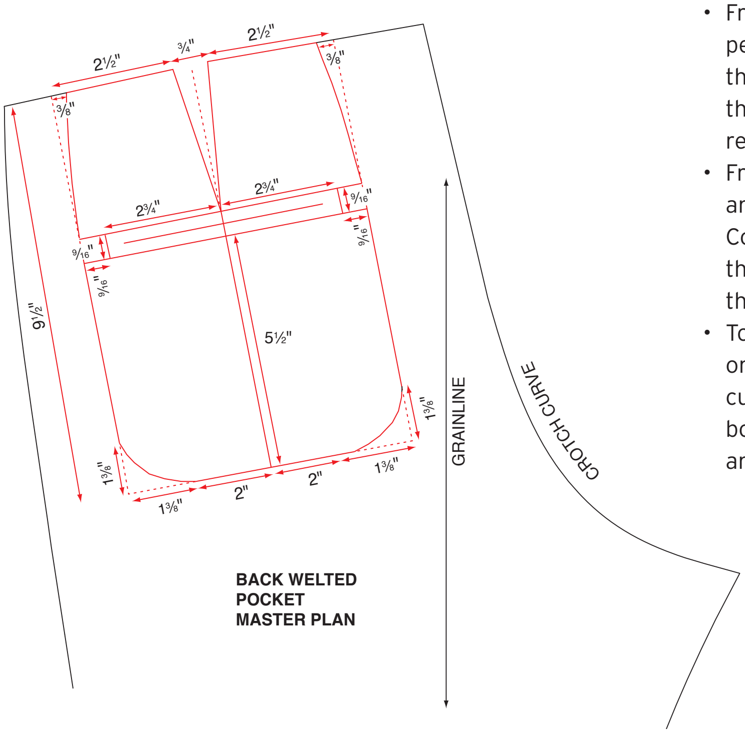
- Following the instructions on page 50, trace off the button bearer final pattern, adding a ⅜in seam allowance to all sides.


⅜"
⅜"
⅜"
⅜"
GRAINLINE
LEFT FLY
BUTTON
BEARER
CUT 1
PR SELF
⅜"
⅜"

STEP 12

DEVELOPING THE BACK WELTED POCKET AND BAG SHAPE

- The welt opening is developed at the tip of the waist dart. The pocket bag parts are drawn over the back leg pattern and then traced off to make individual patterns.
- From the center of the dart at the waistline draw a 9½in perpendicular line down through the dart tip and mark; from this point square out 3⅜in on each side and mark. From these points square back up to the waistline to create a rectangle. This is the basic shape of the pocket bag.
- From the bottom of the dart square out 2¾in on each side and mark; from these points square down 9⁄16in and mark. Connect these points to create a rectangular shape. This is the welt opening, which sits 9⁄16in from each outside seam of the pocket bag.
- To shape the pocket bag measure ⅜in in along the waistline on each side and mark. Connect these points with a shallow curve back to the outside seams of the bag. From each bottom corner of the bag measure up 1⅜in and in 1⅜in and join these points with a curved line.


2½"
¾"
2½"
⅜"
⅜"
9½"
2¾"
2¾"
9⁄16"
9⁄16"
9⁄16"
9⁄16"
5½"
1⅜"
1⅜"
2"
2"
1⅜"
1⅜"
GRAINLINE
CROTCH CURVE
BACK WELTED POCKET MASTER PLAN

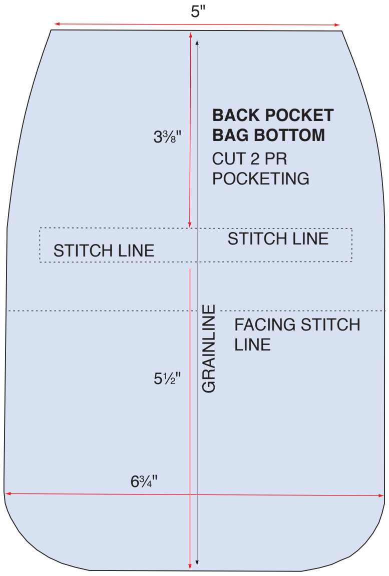
STEP 13

BACK POCKET BAG BOTTOM PATTERN (BACK WELTED POCKET)

Pocket construction

This pocket design has a self-facing strip sewn to the back of the bag so that when the pocket is open the pocketing material is not seen.

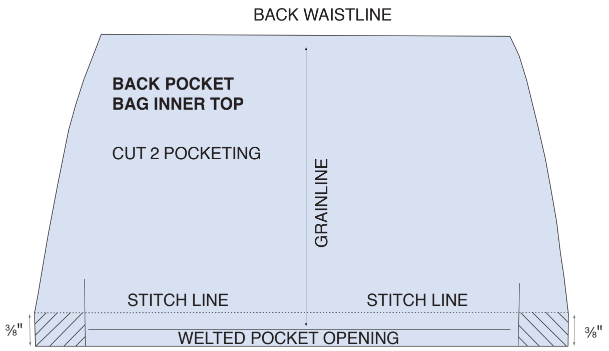
- When tracing this pattern you need to remove the dart. Following the instructions on page 50, trace off the pocket bag pattern by placing the center grainline on one side of the dart leg and drawing around one side of the top of the pattern before moving the grainline to the other dart leg and drawing around the other side.
- Reposition the grainline back to the center of the dart and continue to draw the remainder of the pocket bag and welt shape.

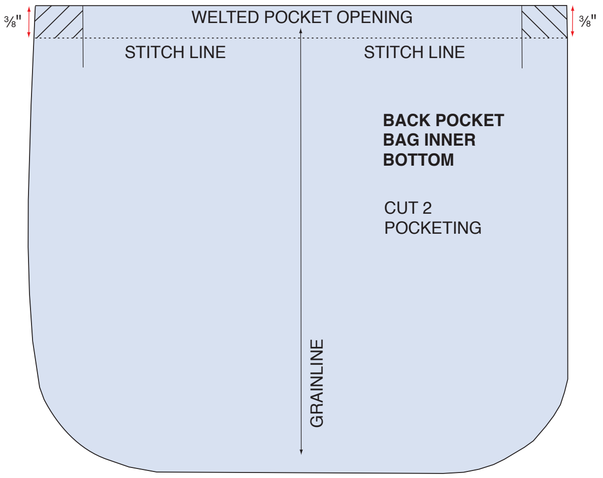

5"
3⅜"
BACK POCKET BAG BOTTOM
CUT 2 PR POCKETING
STITCH LINE
STITCH LINE
FACING STITCH LINE
GRAINLINE
5½"
6¾"

STEP 14

TOP SECTION OF UNDER POCKET BAG PATTERN (BACK WELTED POCKET)

- Following the instructions on page 50, trace this pattern from the waistline to the top stitch line of the welt opening, adding a 3⁄8in seam allowance to the lower edge.


BACK WAISTLINE
BACK POCKET
BAG INNER TOP
CUT 2 POCKETING
GRAINLINE
STITCH LINE
STITCH LINE
3⁄8"
WELTED POCKET OPENING
3⁄8"


3⁄8"
WELTED POCKET OPENING
3⁄8"
STITCH LINE
STITCH LINE
BACK POCKET
BAG INNER
BOTTOM
CUT 2
POCKETING
GRAINLINE

STEP 15

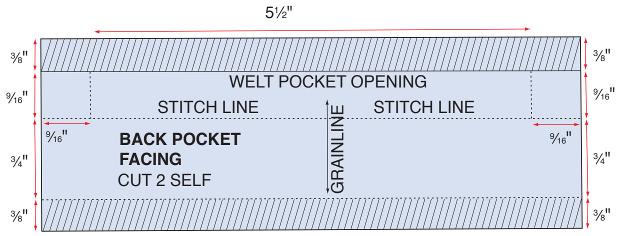
BOTTOM SECTION OF UNDER POCKET BAG PATTERN (BACK WELTED POCKET)

- Following the instructions on page 50, trace this pattern from the lower stitch line of the welt opening, adding a 3⁄8in seam allowance to the top edge.

STEP 16

DEVELOPING THE BACK SELF-FACING STRIP

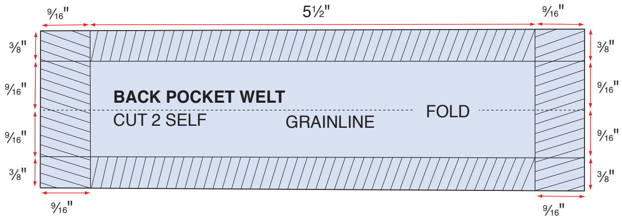
- Trace the welt opening from the back pant leg, adding 9⁄16in to each end. Measure down 3⁄4in at each end of the lower edge of this rectangular shape to create a larger rectangle measuring 6 5⁄8in x 1 3⁄8in. Add a 3⁄8in seam allowance to the top and bottom edges to create the final pattern.


5½"
3⁄8"
3⁄8"
9⁄16"
9⁄16"
WELT POCKET OPENING
STITCH LINE
STITCH LINE
9⁄16"
9⁄16"
BACK POCKET
FACING
CUT 2 SELF
GRAINLINE
3⁄4"
3⁄4"
3⁄8"
3⁄8"

STEP 17

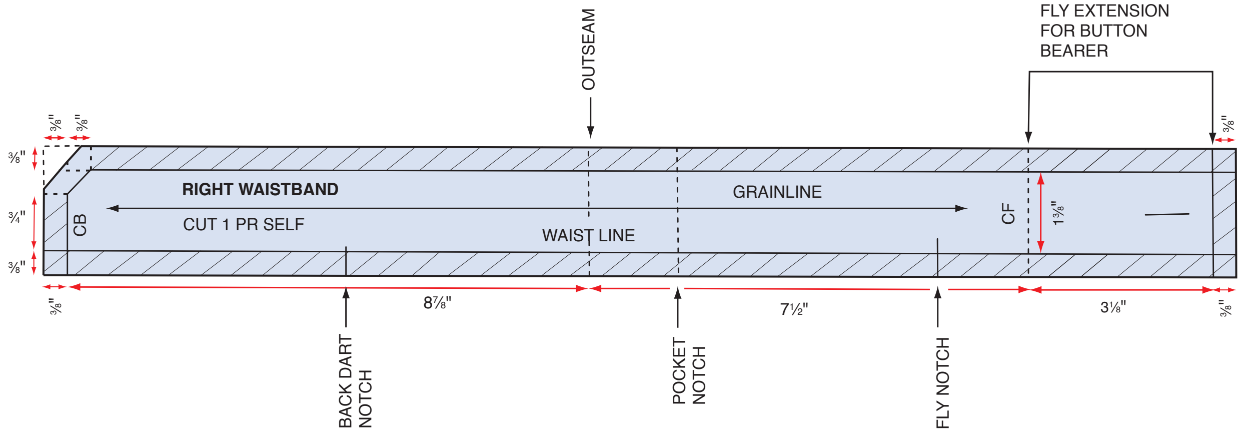
DEVELOPING THE BACK WELT STRIP

- On a separate piece of paper, draw a horizontal box 5 1⁄2in long by 1 1⁄8in wide to create the rectangular-shaped back welt strip.
- Divide the box in half lengthways draw a line across the center, and label it *fold*.
- Add a 9⁄16in seam allowance to each of the shorter sides and a 3⁄8in seam allowance to the longer sides.


9⁄16"
5½"
9⁄16"
3⁄8"
3⁄8"
9⁄16"
9⁄16"
BACK POCKET WELT
CUT 2 SELF
GRAINLINE
FOLD
9⁄16"
9⁄16"
3⁄8"
3⁄8"
9⁄16"
9⁄16"

STEP 18
DEVELOPING THE RIGHT SIDE OF THE WAISTBAND

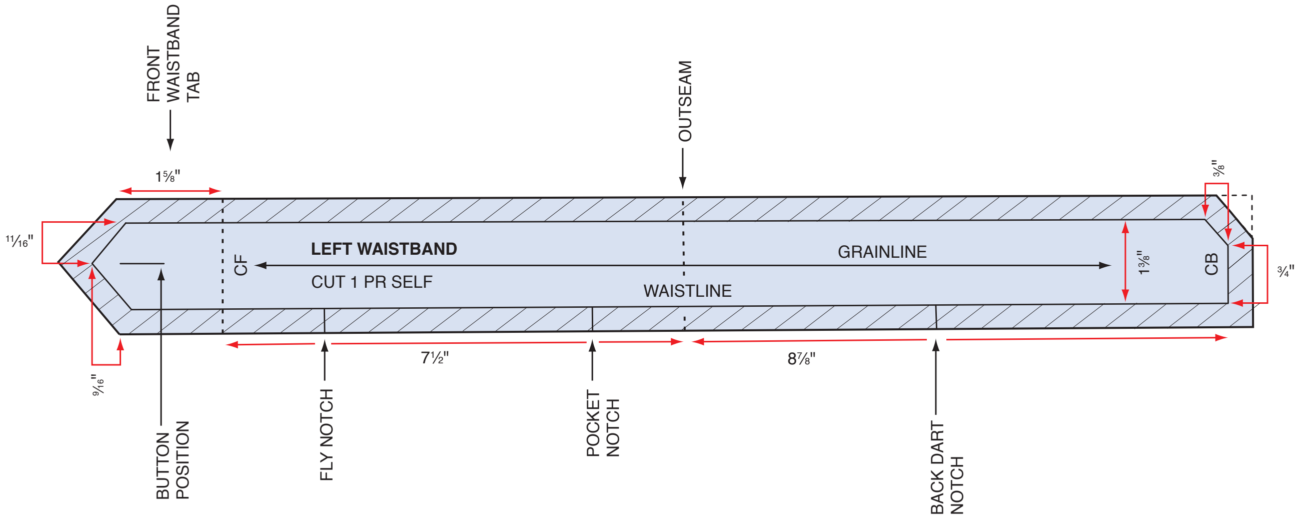
- This style has a notched center back so the waistband will be drafted in two parts.
- Take the waist measurement from the front and back leg patterns to create the waistband. Draw a vertical line 1⅜in long (the depth of the waistband) and label it *center back*. Square across 8⅞in for the back pant width and mark the outseam. Measure a further 7½in for the front pant width and mark and label the *center front*. Measure a further 3⅛in for the fly extension for the button bearer. Complete the rectangle.
- Develop the notch shape by measuring ¾in up the center back and in ⅜in along the top of the waistband and join these two points.
- Add a ⅜in seam allowance to all sides to create the final pattern.



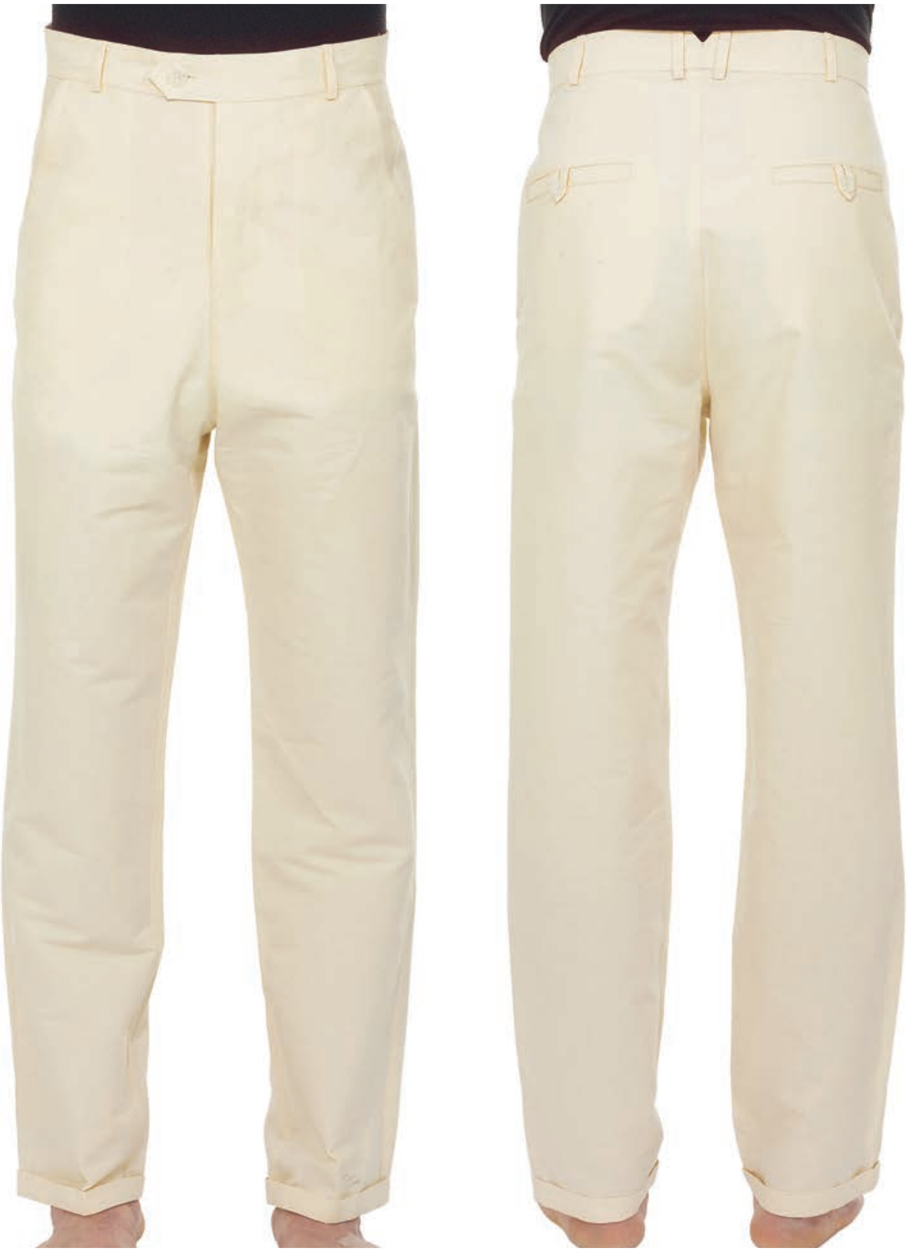
OUTSEAM
FLY EXTENSION FOR BUTTON BEARER
⅜"
⅜"
⅜"
¾"
⅜"
⅜"
RIGHT WAISTBAND
CUT 1 PR SELF
GRAINLINE
WAIST LINE
CB
CF
1⅜"
⅜"
8⅞"
7½"
3⅛"
⅜"
BACK DART NOTCH
POCKET NOTCH
FLY NOTCH

STEP 19
DEVELOPING THE LEFT SIDE OF THE WAISTBAND

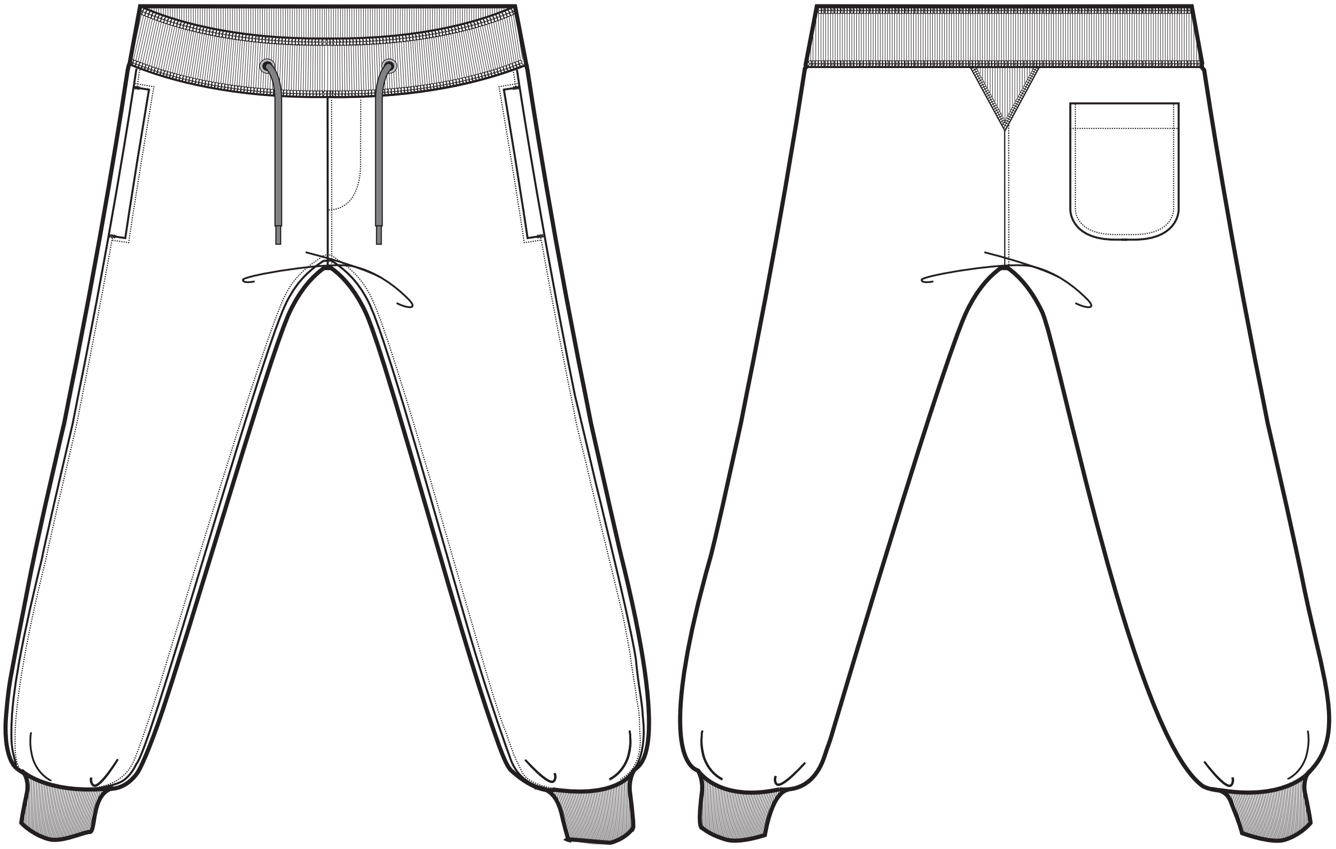
- Use the basic waist measurement from the right waistband to create the left waistband rectangle (7½in + 8⅞in) but then add the measurement for the center front waistband tab, which is 1⅝in in length with an additional 9⁄16in to create the point. The waistband depth is 1⅜in.
- Develop the notch shape by measuring ¾in up the center back and in ⅜in along the top of the waistband and join these two points.
- Add a ⅜in seam allowance to all sides to create the final pattern.



FRONT WAISTBAND TAB
OUTSEAM
1⅝"
⅜"
11⁄16"
LEFT WAISTBAND
CUT 1 PR SELF
CF
GRAINLINE
WAISTLINE
1⅜"
CB
¾"
9⁄16"
7½"
8⅞"
BUTTON POSITION
FLY NOTCH
POCKET NOTCH
BACK DART NOTCH

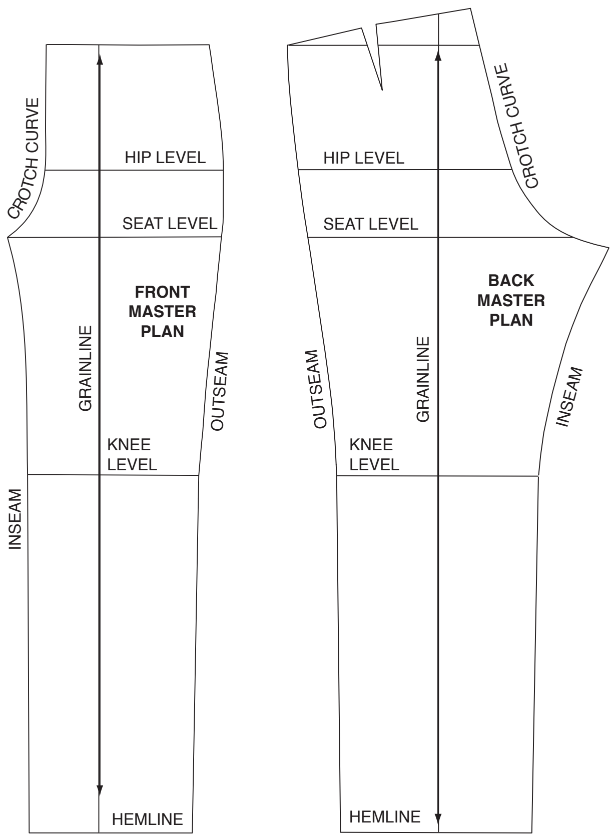


PATTERN
BASIC SWEATPANTS



This pattern includes development of the following features:

Angled center front waist and crotch curve
Angled center back waist
Dropped crotch
Enlarged volume in straight legs
Stitched front fly
Side welted pockets
Back patch pocket
Drawstring ribbed waist
Center back notch detail
Ribbed cuff at hem


CROTCH CURVE
HIP LEVEL
SEAT LEVEL
FRONT MASTER PLAN
GRAINLINE
OUTSEAM
KNEE LEVEL
INSEAM
HEMLINE
CROTCH CURVE
HIP LEVEL
SEAT LEVEL
BACK MASTER PLAN
OUTSEAM
GRAINLINE
INSEAM
KNEE LEVEL
HEMLINE

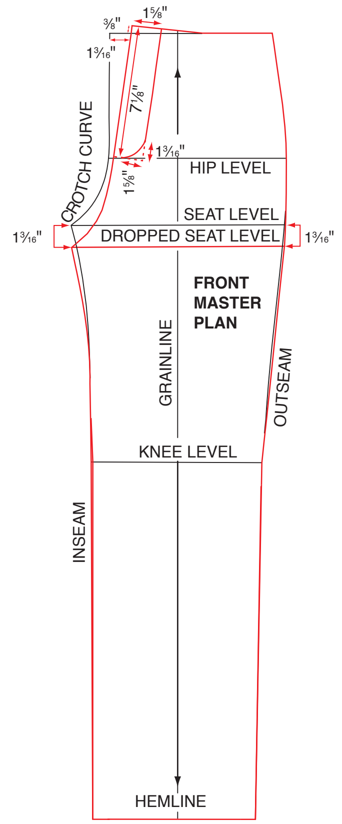
STEP 1
DEVELOPING THE MASTER PLAN

Start by selecting the basic men's pant sloper, or by drafting the basic pant sloper according to the instructions on page 45. Cut a large piece of drafting paper slightly longer than the pant you want to develop and transfer the shape of the sloper and all marks, labels, and instructions, following the directions on page 49.

STEP 2

DEVELOPING THE DROPPED CROTCH, FRONT FLY, AND ANGLED CENTER FRONT WAIST

- Drop the seat level down $1\frac{3}{16}$in from the original seat level and redraw the bottom of the front crotch curve and the inseam and outseam.
- Remove the $1\frac{5}{8}$in pleat volume by angling back the front crotch curve. To do this, measure in $1\frac{3}{16}$in from the center front waist point and from this point square up $\frac{3}{8}$in. Connect this point back down to the dropped crotch and redraw the new waistline with a shallow curve back to the outseam. The remaining $\frac{3}{8}$in will be taken out at the center back waist.
- In this style the fly shape is stitched rather than constructed. To create the fly shape, measure in $1\frac{5}{8}$in from the new center front waist point and from here measure down $7\frac{1}{8}$in. At the bottom of this line measure $1\frac{3}{16}$in back up and make a mark; draw a curved line from this point back to the crotch curve.

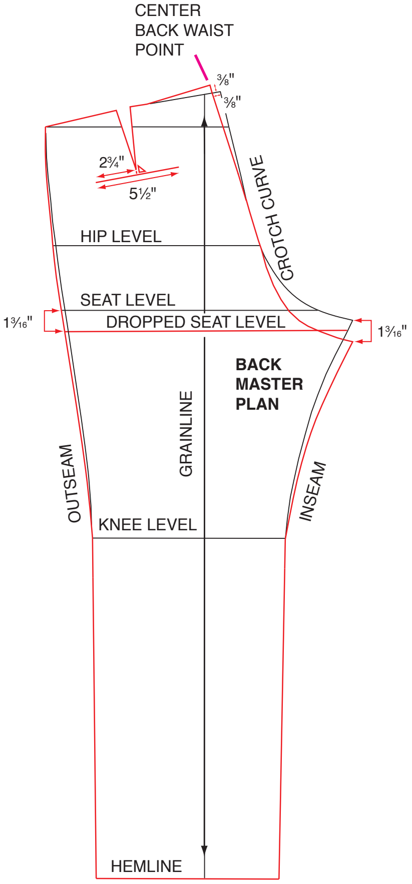


3/8"
1 5/8"
1 3/16"
7 1/8"
CROTCH CURVE
1 3/16"
1 5/8"
HIP LEVEL
SEAT LEVEL
1 3/16"
DROPPED SEAT LEVEL
1 3/16"
FRONT MASTER PLAN
GRAINLINE
OUTSEAM
KNEE LEVEL
INSEAM
HEMLINE

STEP 3

DEVELOPING THE DROPPED CROTCH, ANGLED CENTER BACK WAIST, AND WELTED POCKET POSITION

- Drop the seat level down $1\frac{3}{16}$in from the original seat level and redraw the bottom of the crotch curve and the inseam and outseam.
- From the center back waist point measure in $\frac{3}{8}$in and from this point measure up $\frac{3}{8}$in; redraw the shorter waistline and the longer back crotch curve.
- From the bottom of the dart square out $2\frac{3}{4}$in to each side to create the pocket placement guide line of $5\frac{1}{2}$in, for the right leg only. The top of the patch pocket is aligned against this line.



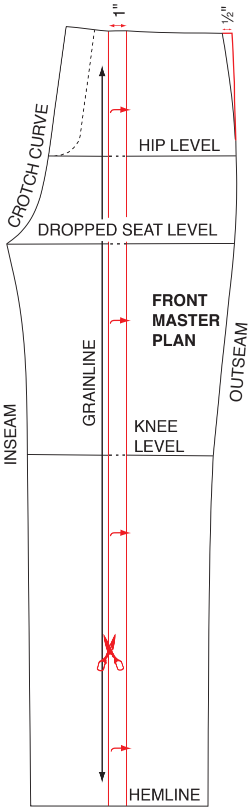
CENTER BACK WAIST POINT
3/8"
3/8"
2 3/4"
5 1/2"
CROTCH CURVE
HIP LEVEL
SEAT LEVEL
1 3/16"
DROPPED SEAT LEVEL
1 3/16"
BACK MASTER PLAN
GRAINLINE
OUTSEAM
INSEAM
KNEE LEVEL
HEMLINE

STEP 4
ADDING VOLUME TO THE FRONT LEG

Pocket construction

This pocket design has a self-facing strip sewn to the back of the bag so that when the pocket is open the pocketing material is not seen.

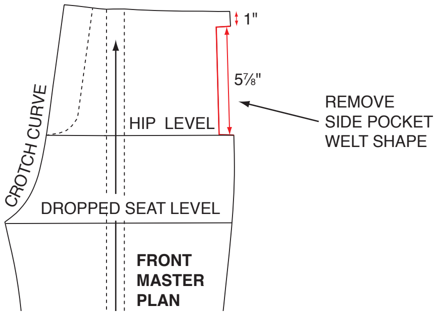
- Cut up the grainline and open by 1in.
- From the outseam waist point measure out ½in; draw in the new outseam line.



1"
½"
CROTCH CURVE
HIP LEVEL
DROPPED SEAT LEVEL
FRONT
MASTER
PLAN
OUTSEAM
GRAINLINE
INSEAM
KNEE
LEVEL
HEMLINE

STEP 5
DEVELOPING THE FRONT SIDE WELTED POCKET

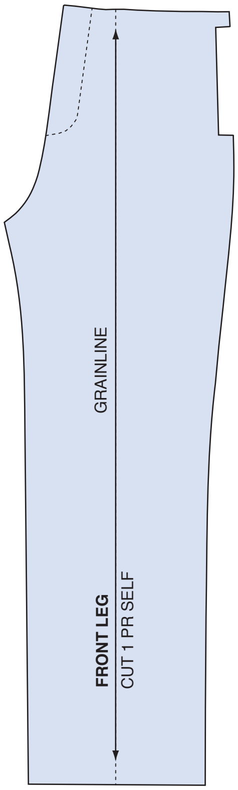
- From the new outseam waist point measure down 1in; from this point measure in ¾in and down 5⅞in to the hip level. Remove a ¾in by 5⅞in rectangle, which will become the welted pocket opening.



1"
5⅞"
REMOVE
SIDE POCKET
WELT SHAPE
CROTCH CURVE
HIP LEVEL
DROPPED SEAT LEVEL
FRONT
MASTER
PLAN

STEP 6
FRONT LEG PATTERN

- Following the instructions on page 50, trace off the front pant leg pattern.



GRAINLINE
FRONT LEG
CUT 1 PR SELF

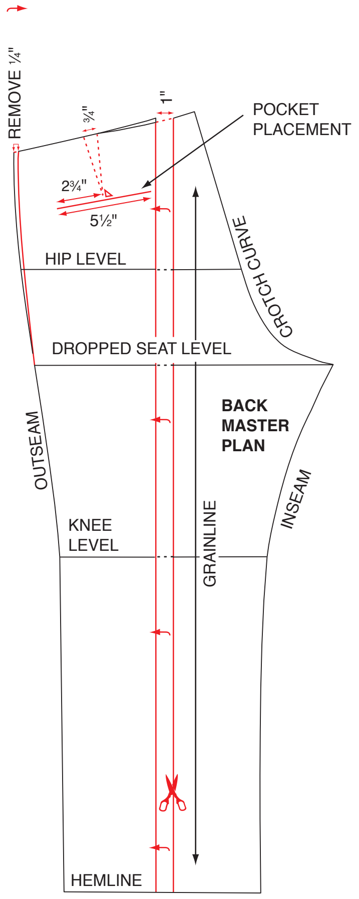
STEP 7

ADDING VOLUME TO THE BACK LEG

Creating extra volume for the sweatpant silhouette in the back

To create the sweatpant silhouette extra volume needs to be added. This is achieved by adding 1in through the middle of the pattern and by keeping the dart width (¾in) but removing ¼in from the outseam, giving an extra 1½in ease in the waist of the back leg pattern.

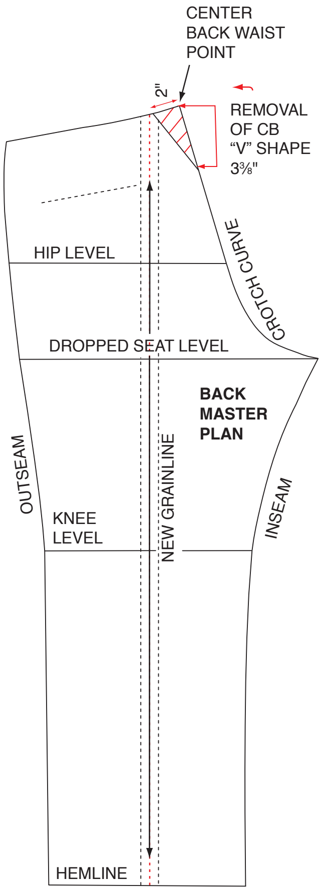
- Cut up the grainline and open by 1in.
- Remove the dart legs and continue the waistline across, keeping the volume in the pattern.
- From the outseam waist point measure in ¼in; draw in the new outseam line.


REMOVE ¼"
¾"
1"
POCKET PLACEMENT
2¾"
5½"
HIP LEVEL
CROTCH CURVE
DROPPED SEAT LEVEL
BACK MASTER PLAN
OUTSEAM
INSEAM
KNEE LEVEL
GRAINLINE
HEMLINE

STEP 8

REMOVING THE CENTER BACK NOTCH DETAIL

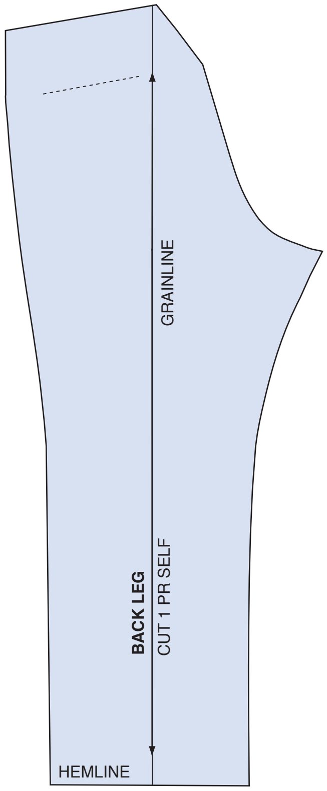
- To remove the V shape detail, from the center back waist point measure 3⅜in down the back crotch curve and mark, and 2in along the waistline and mark. Connect these two points with a straight line.


CENTER BACK WAIST POINT
2"
REMOVAL OF CB "V" SHAPE 3⅜"
HIP LEVEL
CROTCH CURVE
DROPPED SEAT LEVEL
BACK MASTER PLAN
OUTSEAM
KNEE LEVEL
NEW GRAINLINE
INSEAM
HEMLINE

STEP 9

BACK LEG PATTERN

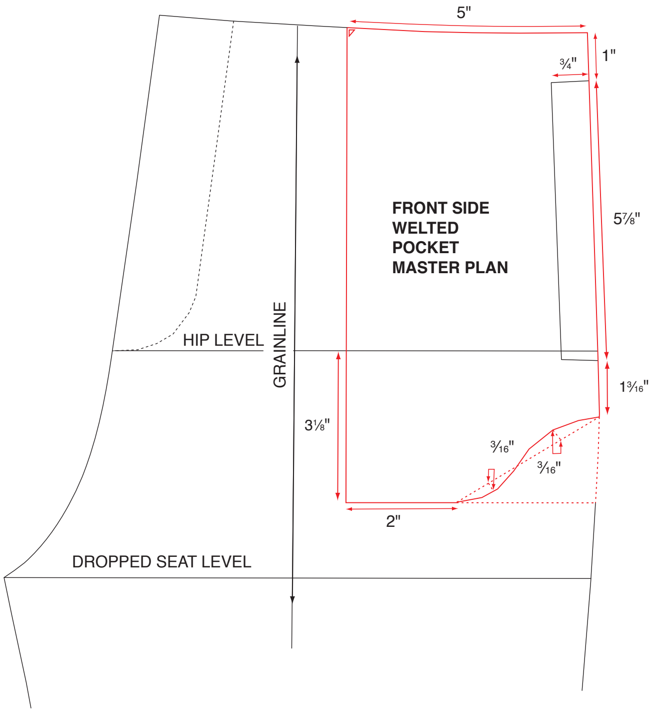
- Following the instructions on page 50, trace off the back pant leg pattern.


GRAINLINE
BACK LEG
CUT 1 PR SELF
HEMLINE

STEP 10

DEVELOPING THE FRONT SIDE WELTED POCKET POSITION AND BAG

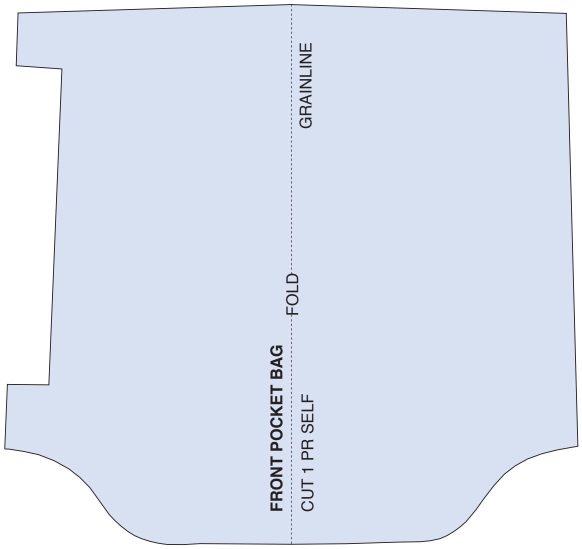
- From the outseam waist point measure 5in along the waist, and from this point square down to the hip level plus a further 3⅛in; from here square back to the outseam. Measure 2in along this line and make a mark.
- From the bottom of the welt opening shape measure down 1 3/16in along the outseam and connect this point to the 2in point at the bottom of the pocket bag with a straight line.
- To add curves to this line, divide its measurement into four and mark. From the bottom of the line square down 3/16in at the first mark and from the top of the line square up 3/16in at the first mark. Draw a curved line joining these points, starting at the bottom and reversing the curve in the middle of the line.


5"
1"
¾"
FRONT SIDE WELTED POCKET MASTER PLAN
5⅞"
HIP LEVEL
GRAINLINE
1 3/16"
3⅛"
3/16"
3/16"
2"
DROPPED SEAT LEVEL

STEP 11

FRONT POCKET BAG PATTERN

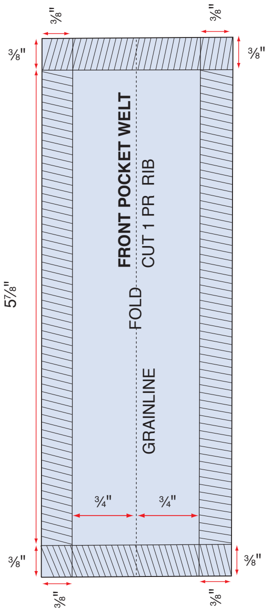
- Following the instructions on page 50, trace off the front pocket bag pattern, and mirror it over to create both sides of the bag, with the opening on one side only.


GRAINLINE
FOLD
FRONT POCKET BAG
CUT 1 PR SELF

STEP 12

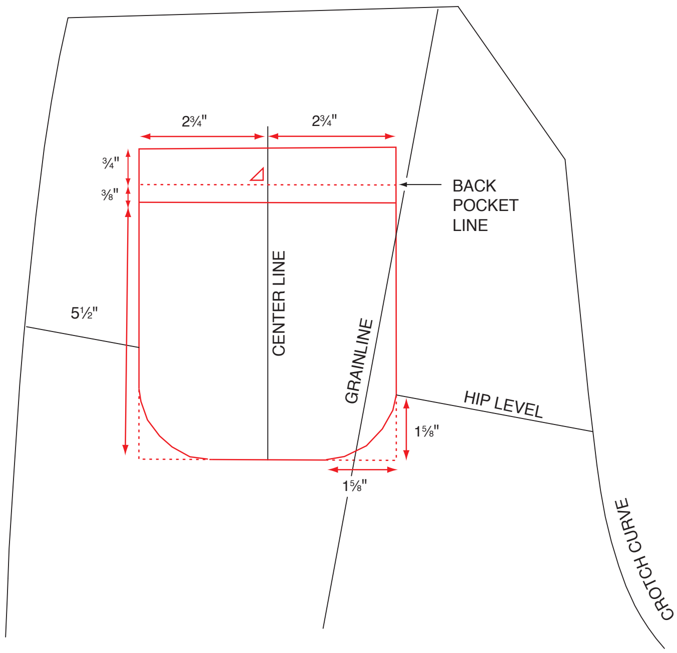
DEVELOPING THE FRONT WELT STRIP

- On a separate piece of paper, draw a horizontal box 5⅞in long by 1½in wide.
- Divide the box in half lengthways, draw a line down the center, and label it *fold*.
- Add a ⅜in seam allowance to each side.


⅜"
⅜"
⅜"
⅜"
FRONT POCKET WELT
CUT 1 PR RIB
5⅞"
FOLD
GRAINLINE
¾"
¾"
⅜"
⅜"
⅜"
⅜"

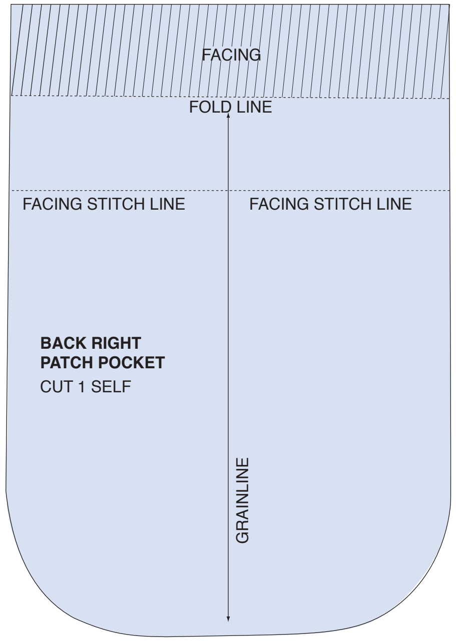
STEP 13
DEVELOPING THE BACK RIGHT PATCH POCKET BAG

- Use the pocket position line on the back leg pattern as the starting point for developing the patch pocket bag. From this line measure ¾in up and ⅜in down at each end and join these points to create a rectangle. This is the folded facing shape.
- Continue to measure down 5½in on each side and square across. From each bottom corner of the bag measure up 1⅝in and in 1⅝in and join these points with a curved line.


2¾"
2¾"
¾"
⅜"
BACK
POCKET
LINE
5½"
CENTER LINE
GRAINLINE
HIP LEVEL
1⅝"
1⅝"
CROTCH CURVE

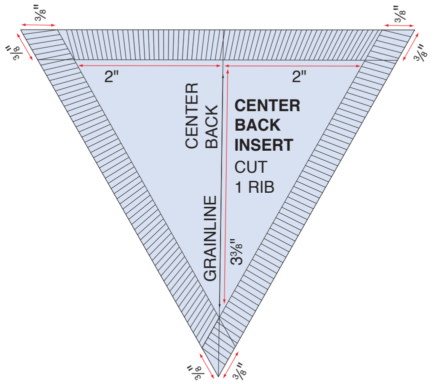
STEP 14
BACK RIGHT PATCH POCKET BAG PATTERN

- Following the instructions on page 50, trace off to create the back right patch pocket pattern and add on the self-facing allowance as shown.


FACING
FOLD LINE
FACING STITCH LINE
FACING STITCH LINE
BACK RIGHT
PATCH POCKET
CUT 1 SELF
GRAINLINE

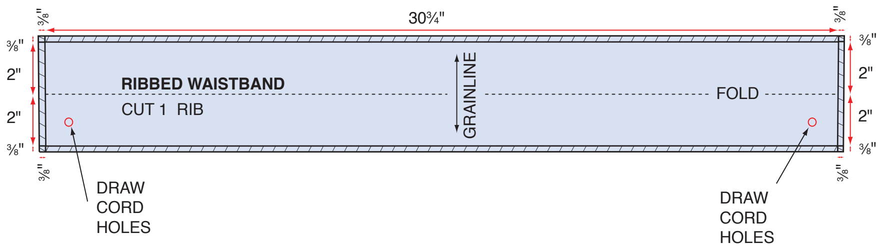
STEP 15
DEVELOPING THE CENTER BACK V NOTCH STYLE DETAIL

- The center back notch detail is purely a design feature.
- Draw a horizontal line 4in in length and mark each end; from the center of the line square down 3⅜in and mark. This is the center back line.
- Connect these three points to form a triangle.
- Extend the lines out by ⅜in at each end and draw a larger triangle to give ⅜in seam allowance on all sides.



STEP 16
DEVELOPING THE RIBBED WAISTBAND

- On a separate piece of paper, draw a horizontal box 30¾in long (the length of the ribbed waistband calculated according to the standard stretch calculation given below) by 4in wide (double the depth of the waistband).
- Divide the box in half lengthways, draw a line down the center, and label it *fold*.
- Mark cord holes for the drawstring in the bottom left and bottom right corners.
- Add a ⅜in seam allowance to all sides.



Sizing the waistband

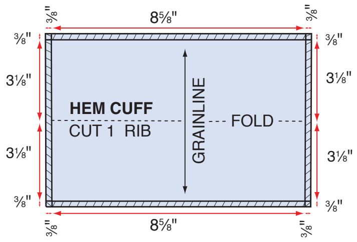
Before developing the waistband pattern for the ribbed jersey, it is important to calculate the amount by which you will need to reduce the waistband and this will vary depending on the stretch ratio of the rib you are using. The stretch of ribbed jersey will depend on the amount of elastic or spandex used by the manufacturer.

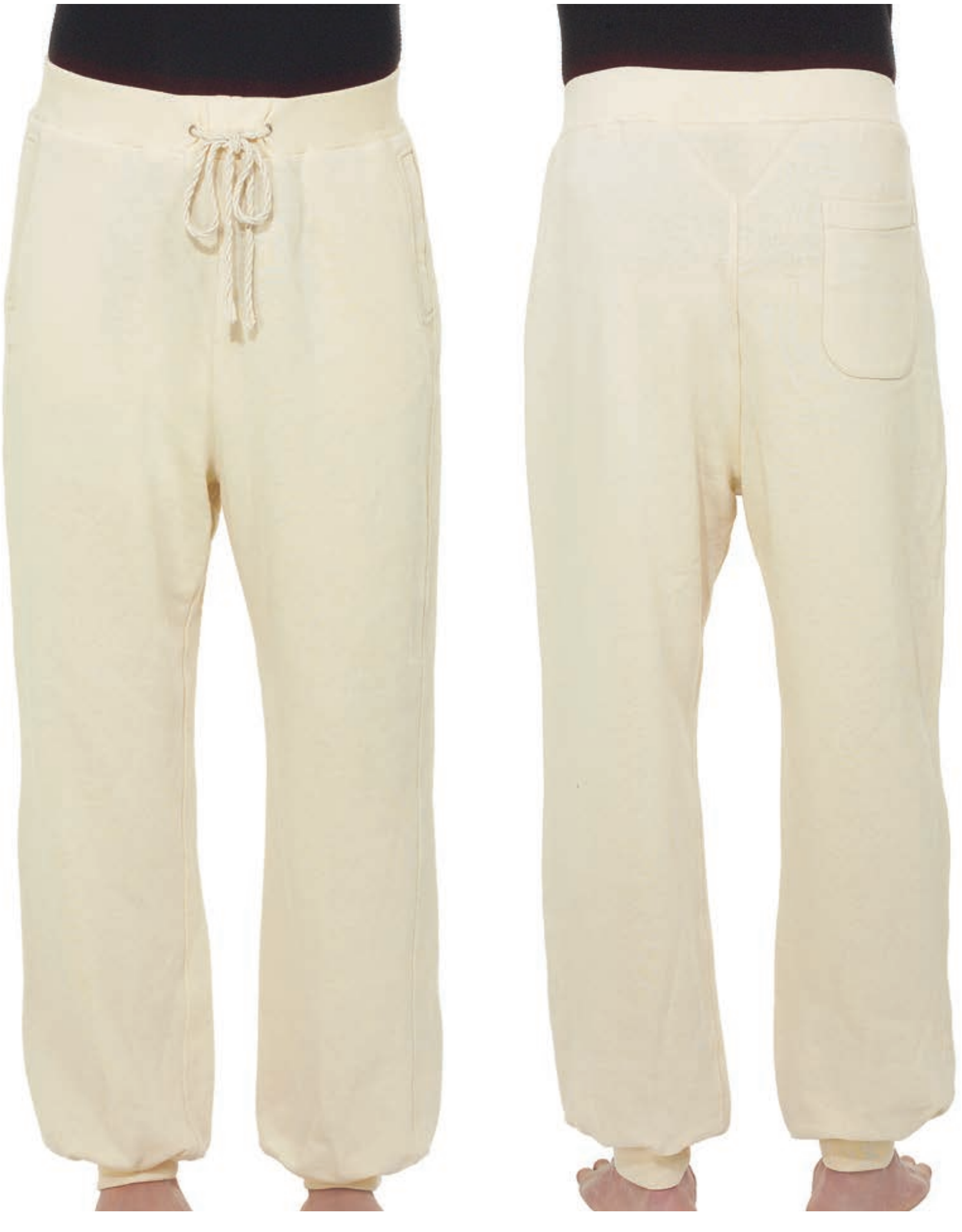
A standard calculation for the waistband length can be made by measuring the circumference of the waist from the front and back pant patterns and then by dividing this measurement by four; one-quarter is then subtracted from the measurement of the waist circumference.

You may have to reduce the waistband further than this standard formula, depending on the stretch of the jersey rib. Use this calculation as a starting point and check the stretch ratio before making the final waistband pattern.

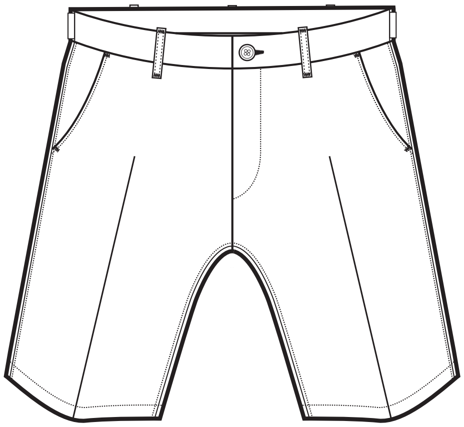
STEP 17
DEVELOPING THE RIBBED HEM CUFF

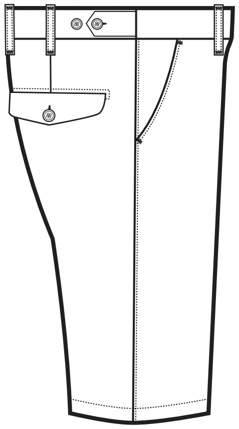
- On a separate piece of paper, draw a horizontal box 8⅝in long by 6¼in wide (double the depth of the hem cuff).
- Divide the box in half lengthways, draw a line across the center, and label it *fold*.
- Add a ⅜in seam allowance to all sides.

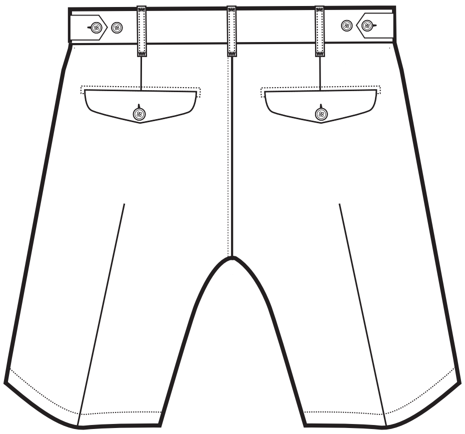




PATTERN
TAILORED SHORTS





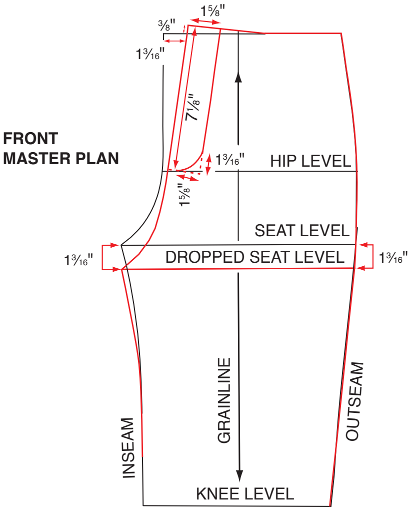


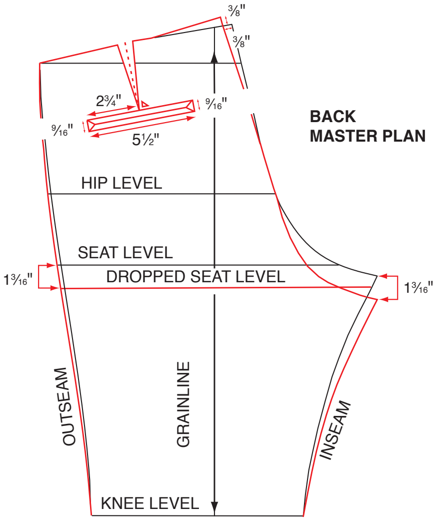
This pattern includes development of the following features:
Angled center front waist, crotch curve
Angled center back waist
Dropped crotch
Shortened straight legs
Front fly, fly facing, and button stand and bearer
Angled side pockets
Back welted pockets with flaps
Straight waistband with side tab

STEP 1
DEVELOPING THE MASTER PLAN

This shorts style is developed from the master plan of the chinos. Start by selecting the chinos master plan, or develop the master plan from the basic men's pant sloper by following the instructions for the chinos on pages 158–60.

The adaptations already made for the chinos style are:
Angled center front and back waist to remove the pleat volume
Dropped crotch front and back
Front fly development
Alignment of back welted pockets


FRONT MASTER PLAN
1⅝"
⅜"
1³⁄₁₆"
7⅛"
1³⁄₁₆"
HIP LEVEL
1⅝"
SEAT LEVEL
1³⁄₁₆"
DROPPED SEAT LEVEL
1³⁄₁₆"
INSEAM
GRAINLINE
OUTSEAM
KNEE LEVEL


⅜"
⅜"
2¾"
⁹⁄₁₆"
⁹⁄₁₆"
5½"
BACK MASTER PLAN
HIP LEVEL
SEAT LEVEL
1³⁄₁₆"
DROPPED SEAT LEVEL
1³⁄₁₆"
OUTSEAM
GRAINLINE
INSEAM
KNEE LEVEL

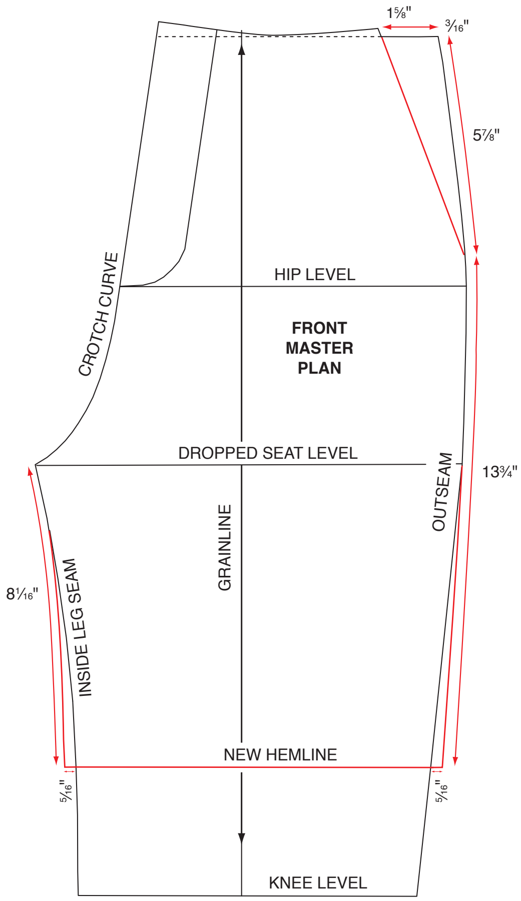
STEP 2
DEVELOPING THE FRONT ANGLED SIDE POCKET OPENING AND FRONT SHORTS LENGTH

- From the outseam waist point measure 1⅝in toward the center front and 5⅞in down the outseam and connect these two points for the angled pocket opening. Extend the pocket opening line at the waistline by 3⁄16in and redraw it, blending the line back to waistline to enlarge the opening.

Enlarging the angled pocket opening to accommodate the width of the hand

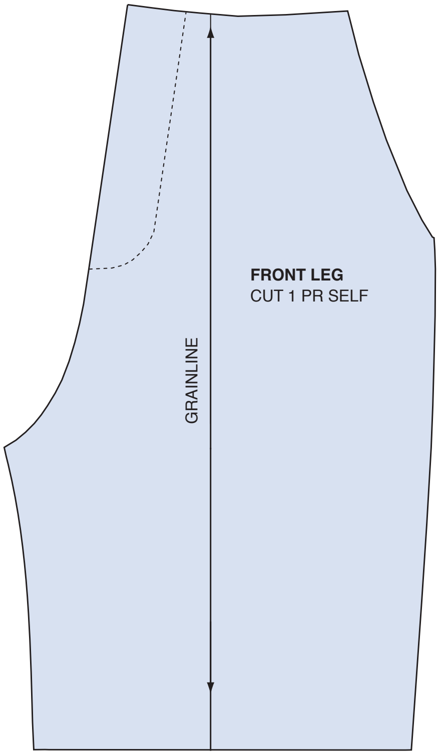
The pocket opening must be enlarged to allow for different hand widths or the pockets will be too tight to use and stretching will occur.

- From the bottom of the pocket opening measure 13¾in down the outseam and then square out 5⁄16in. Redraw the outseam back from this point.
- From the bottom of the crotch curve measure 8 1⁄16in down the inside leg and then square out 5⁄16in. Redraw the inseam back from this point.
- Draw a line between the two points to form the new hemline.


1⅝"
3⁄16"
5⅞"
HIP LEVEL
CROTCH CURVE
FRONT
MASTER
PLAN
DROPPED SEAT LEVEL
13¾"
OUTSEAM
GRAINLINE
8 1⁄16"
INSIDE LEG SEAM
NEW HEMLINE
5⁄16"
5⁄16"
KNEE LEVEL

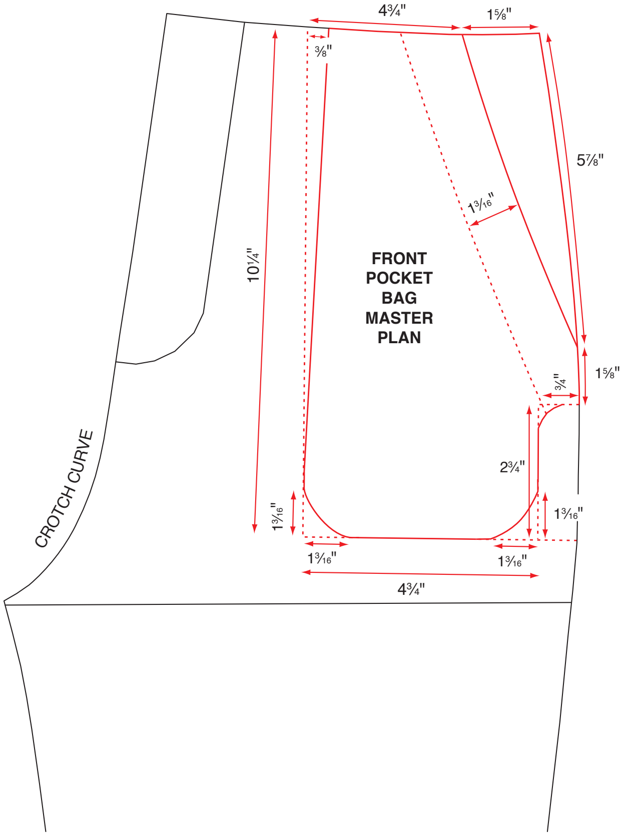
STEP 3
FRONT LEG PATTERN

- Following the instructions on page 50, trace off the front leg pattern.


FRONT LEG
CUT 1 PR SELF
GRAINLINE

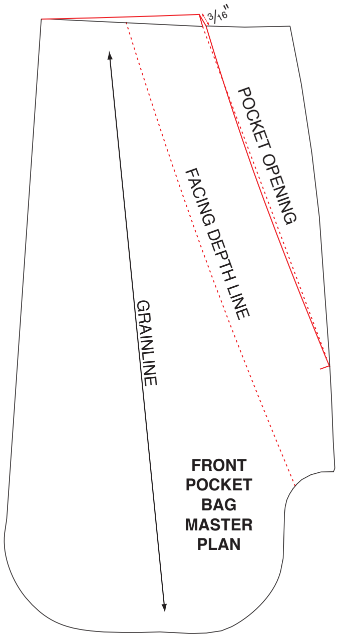
STEP 4
DEVELOPING THE FRONT POCKET BAG

- First recreate the original shape of the front pant leg master plan before the shape for the angled side pocket was removed and redraw the pocket opening from Step 2 (without the extension for the enlarged opening).
- Next create the pocket bag template by measuring along the waistline a further 4¾in from the opening to develop the pocket bag width. From this point square down 10¼in; this is the length of the pocket bag.
- From the bottom of the pocket opening, to create a step, measure down 1⅝in and from this point measure in ¾in; from here measure down a further 2¾in and connect this point to the pocket length to close the bag shape.
- To create a slight angle to the side of the pocket bag, at the top of the pocket measure ⅜in back along the waistline toward the outseam and redraw the pocket length. At the bottom of the pocket, round off the corners ($1\frac{3}{16}$in by $1\frac{3}{16}$in), and round off the step.
- Develop the pocket facing depth by measuring in $1\frac{3}{16}$in from the opening and connecting the waistline with the step using a parallel curved line.


4¾"
1⅝"
⅜"
5⅞"
$1\frac{3}{16}$"
10¼"
FRONT POCKET BAG MASTER PLAN
¾"
1⅝"
2¾"
$1\frac{3}{16}$"
$1\frac{3}{16}$"
$1\frac{3}{16}$"
$1\frac{3}{16}$"
4¾"
CROTCH CURVE

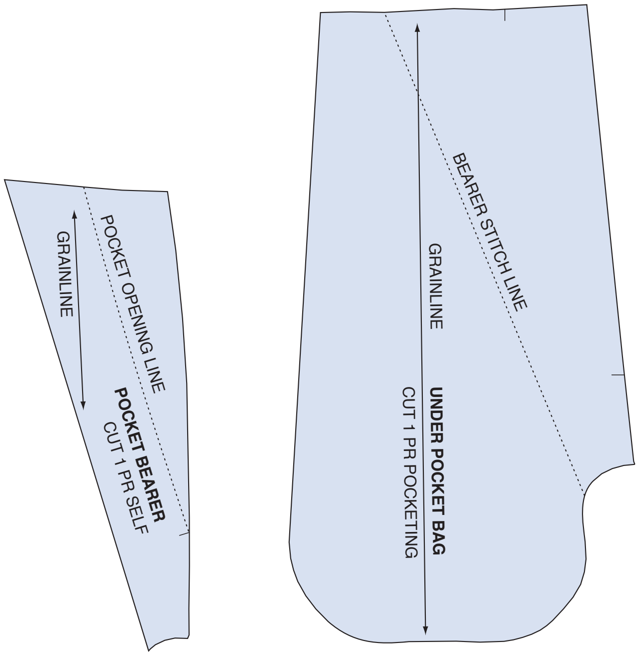
STEP 5
DEVELOPING THE FRONT POCKET BAG MASTER PLAN

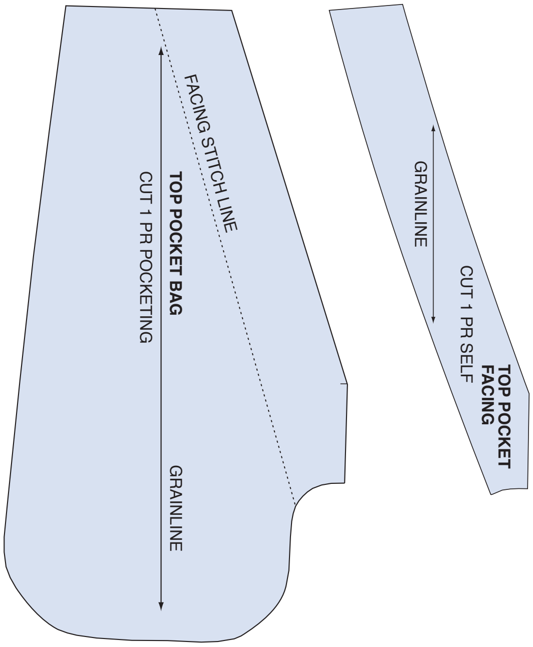
- Trace off the pocket bag shape with the facing depth line onto a separate piece of paper, extend the pocket opening line up $\frac{3}{16}$in, and redraw it, blending the line back to the top edge.


$\frac{3}{16}$"
POCKET OPENING
FACING DEPTH LINE
GRAINLINE
FRONT POCKET BAG MASTER PLAN

STEP 6
FRONT POCKET BAG COMPONENT PATTERNS

- Following the instructions on page 50, trace off the top pocket bag pattern and the top pocket facing from the latest development in Step 5, including the extended pocket opening. Trace off the pocket bearer and the under pocket bag without the additional shape formed by the extended pocket opening.


GRAINLINE
POCKET OPENING LINE
POCKET BEARER
CUT 1 PR SELF
BEARER STITCH LINE
GRAINLINE
UNDER POCKET BAG
CUT 1 PR POCKETING

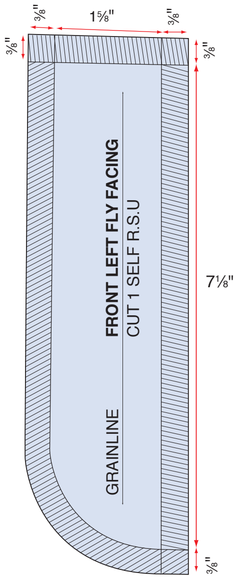

FACING STITCH LINE
TOP POCKET BAG
CUT 1 PR POCKETING
GRAINLINE
GRAINLINE
CUT 1 PR SELF
TOP POCKET FACING

The pocket bearer

The pocket bearer is cut from the original fabric and is sewn to the waistband and outseam behind the angled pocket opening. It is attached to the pocketing material of the under pocket bag. While the pocket opening was made longer in Step 2, the pocket bearer and under pocket bag will follow the original line of the waistline, holding the dimensions of the pocket parts together.

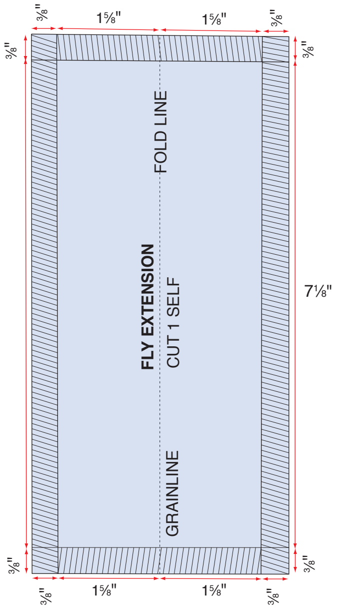
STEP 7
DEVELOPING THE FRONT FLY FACING

- Following the instructions on page 50, trace off the fly shape developed in Step 1 onto a separate piece of paper and flip it over, adding a 3⁄8in seam allowance to create the final fly facing pattern.


⅜"
1⅝"
⅜"
⅜"
⅜"
FRONT LEFT FLY FACING
CUT 1 SELF R.S.U
GRAINLINE
7⅛"
⅜"

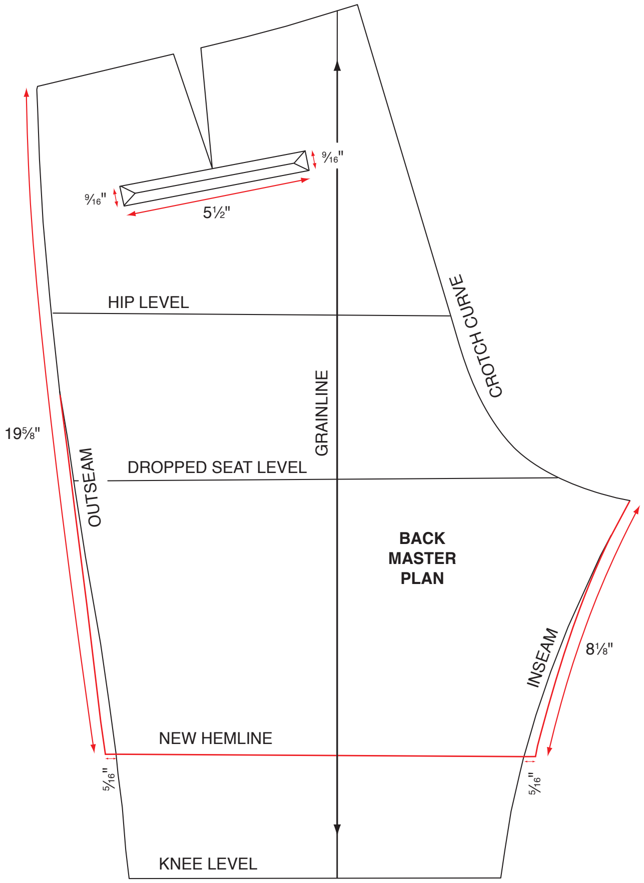
STEP 8
DEVELOPING THE FLY EXTENSION

- On a separate piece of paper, draw a vertical box 7 1⁄8in long by 3 1⁄8in wide to create the rectangular-shaped fly extension.
- Divide the box in half lengthways, draw a line down the center, and label it *fold*.
- Add a 3⁄8in seam allowance on all sides.


⅜"
1⅝"
1⅝"
⅜"
⅜"
⅜"
FOLD LINE
FLY EXTENSION
CUT 1 SELF
GRAINLINE
7⅛"
⅜"
⅜"
⅜"
1⅝"
1⅝"
⅜"

STEP 9
DEVELOPING THE BACK SHORTS LENGTH

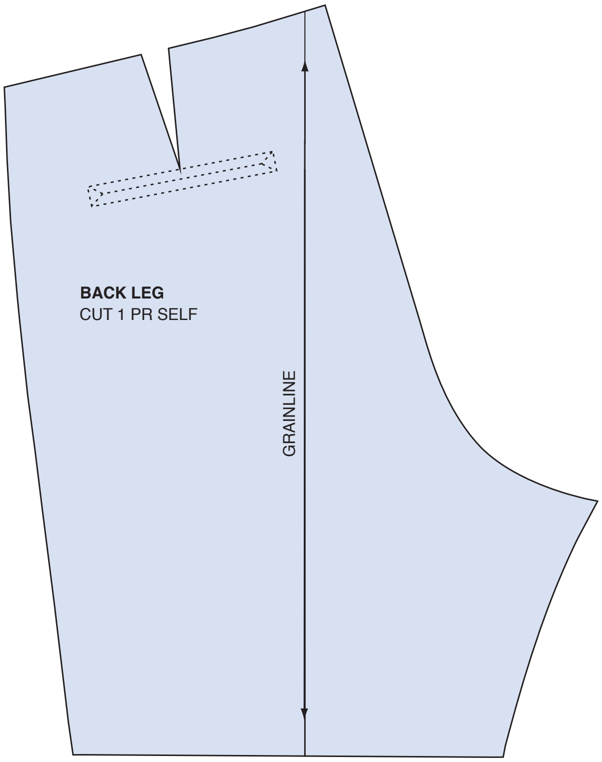
- From the waistline measure 19⁵⁄₈in down the outseam and then square out ⁵⁄₁₆in. Redraw the outseam back from this point.
- From the bottom of the crotch curve measure 8¹⁄₈in down the inside leg and then square out ⁵⁄₁₆in. Redraw the inseam back from this point.
- Draw a line between the two points to form the new hemline.



⁹⁄₁₆"
⁹⁄₁₆"
5½"
HIP LEVEL
CROTCH CURVE
GRAINLINE
19⁵⁄₈"
OUTSEAM
DROPPED SEAT LEVEL
BACK
MASTER
PLAN
INSEAM
8⅛"
NEW HEMLINE
⁵⁄₁₆"
⁵⁄₁₆"
KNEE LEVEL

STEP 10
BACK LEG PATTERN

- Following the instructions on page 50, trace off the back leg pattern.

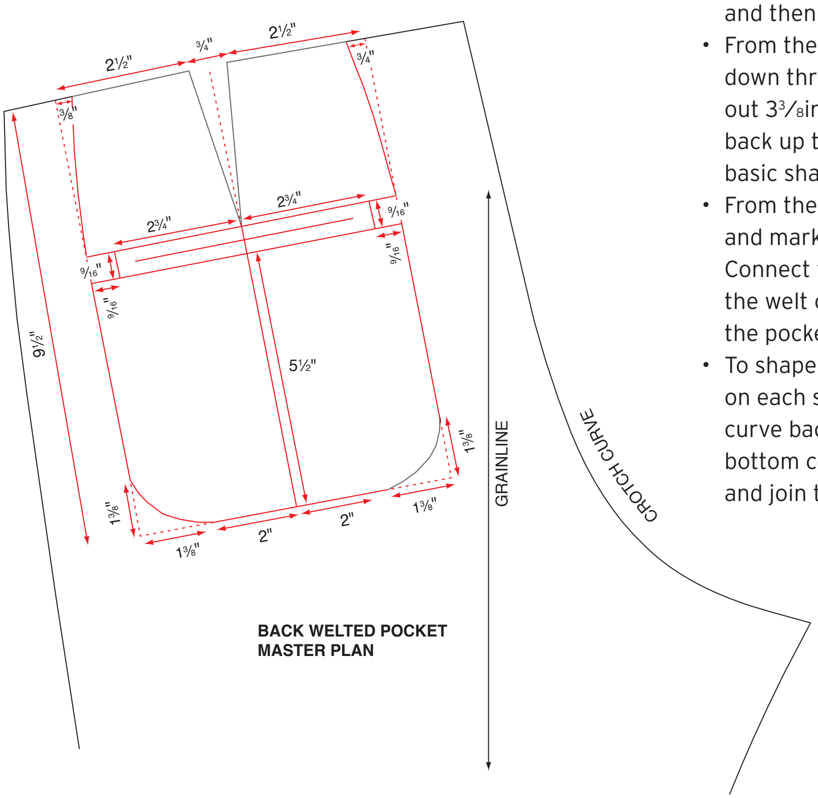


BACK LEG
CUT 1 PR SELF
GRAINLINE

STEP 11

DEVELOPING THE BACK WELTED POCKET AND BAG SHAPE

- The welt opening is developed at the tip of the waist dart. The pocket bag parts are drawn over the back leg pattern and then traced off to make individual patterns.
- From the center of the dart at the waistline draw a 9½in line down through the dart tip and mark; from this point square out 3⅜in on each side and mark. From these points square back up to the waistline to create a rectangle, which is the basic shape of the pocket bag.
- From the bottom of the dart square out 2¾in on each side and mark; from these points square down 9⁄16in and mark. Connect these points to create a rectangular shape. This is the welt opening, which sits 9⁄16in from each outside seam of the pocket bag.
- To shape the pocket bag measure ⅜in in along the waistline on each side and mark. Connect these points with a shallow curve back to the outside seams of the bag. From each bottom corner of the bag measure up 1⅜in and in 1⅜in and join these points with a curved line.



BACK WELTED POCKET MASTER PLAN

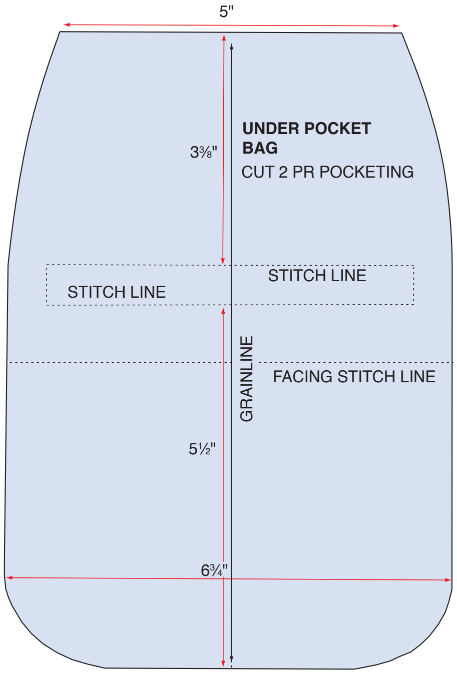
STEP 12

UNDER POCKET BAG PATTERN (BACK WELTED POCKET)

Pocket construction

This pocket design has a self-facing strip sewn to the back of the bag so that when the pocket is open the pocketing material is not seen.

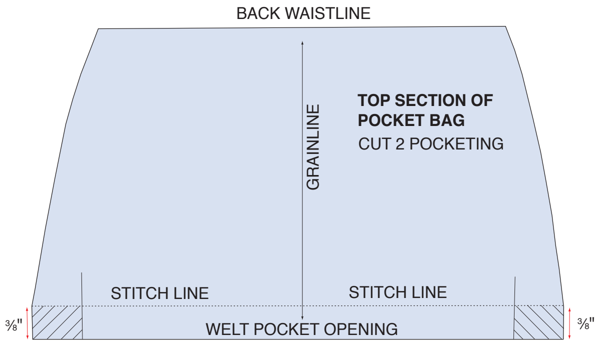
- When tracing this pattern you need to remove the dart. Following the instructions on page 50, trace off the pocket bag pattern by placing the center grainline on one side of the dart leg and drawing around one side of the top of the pattern before moving the grainline to the other dart leg and drawing around the other side.
- Reposition the grainline back to the center of the dart and continue to draw the remainder of the pocket bag and welt shape.



STEP 13

TOP SECTION OF POCKET BAG PATTERN (BACK WELTED POCKET)

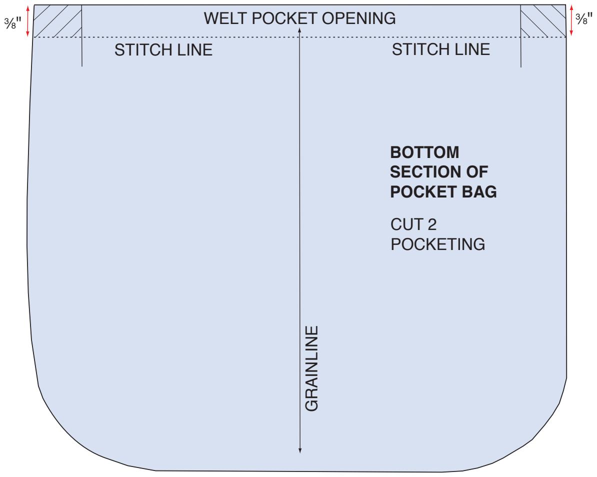
- Following the instructions on page 50, trace this pattern from the waistline to the top stitch line of the welt opening, adding a 3⁄8in seam allowance to the lower edge.


BACK WAISTLINE
GRAINLINE
TOP SECTION OF POCKET BAG
CUT 2 POCKETING
STITCH LINE
STITCH LINE
WELT POCKET OPENING
⅜"
⅜"

STEP 14

BOTTOM SECTION OF POCKET BAG PATTERN (BACK WELTED POCKET)

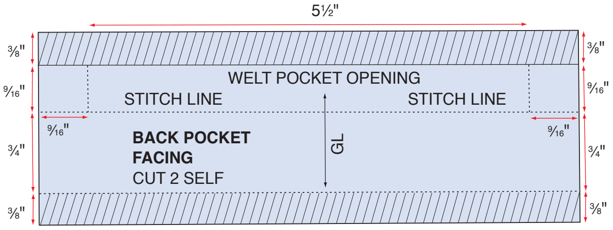
- Following the instructions on page 50, trace this pattern from the lower stitch line of the welt opening, adding a 3⁄8in seam allowance to the top edge.


⅜"
WELT POCKET OPENING
⅜"
STITCH LINE
STITCH LINE
BOTTOM SECTION OF POCKET BAG
CUT 2 POCKETING
GRAINLINE

STEP 15

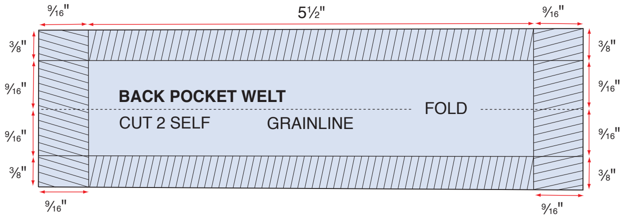
DEVELOPING THE BACK SELF-FACING STRIP

- Trace the welt opening from the back pant leg, adding 9⁄16in to each end. Measure down 3⁄4in at each end of the lower edge of this rectangular shape to create a larger rectangle measuring 65⁄8in x 15⁄16in. Add a 3⁄8in seam allowance to the top and bottom edges to create the final pattern.


5½"
⅜"
⅜"
WELT POCKET OPENING
9⁄16"
9⁄16"
STITCH LINE
STITCH LINE
9⁄16"
9⁄16"
BACK POCKET FACING
CUT 2 SELF
GL
¾"
¾"
⅜"
⅜"

STEP 16
DEVELOPING THE BACK WELT STRIP

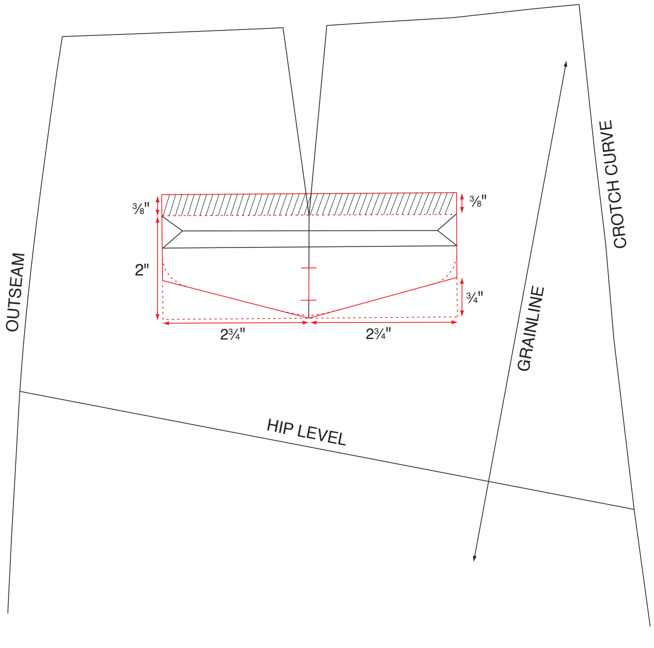
- On a separate piece of paper, draw a horizontal box 5½in long by 1⅛in wide to create the rectangular-shaped welt strip.
- Divide the box in half lengthways, draw a line across the center, and label it *fold*.
- Add a 9⁄16in seam allowance to each of the shorter sides and a ⅜in seam allowance to the longer sides to create the final pattern.



9⁄16"
5½"
9⁄16"
⅜"
9⁄16"
9⁄16"
⅜"
BACK POCKET WELT
CUT 2 SELF
GRAINLINE
FOLD
⅜"
9⁄16"
9⁄16"
⅜"
9⁄16"
9⁄16"

STEP 17
DEVELOPING THE BACK WELTED POCKET FLAP

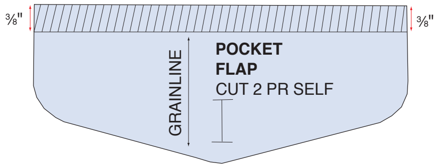
- The pocket flap shape is developed over the back welt opening. From the top of the welt opening, at the dart point, square down 2in and mark. From this point square across 2¾in to each side and connect these two points with the top of the welt opening to create a rectangle.
- From each bottom corner measure up ¾in and connect these points back down to the center of the bottom line to form the pointed shape of the pocket flap.
- Round off the bottom corners.
- Add a ⅜in seam allowance to the top edge of the flap.



OUTSEAM
⅜"
2"
2¾"
2¾"
⅜"
¾"
GRAINLINE
CROTCH CURVE
HIP LEVEL

STEP 18
BACK WELTED POCKET FLAP PATTERN

- Following the instructions on page 50, trace off the flap pattern.

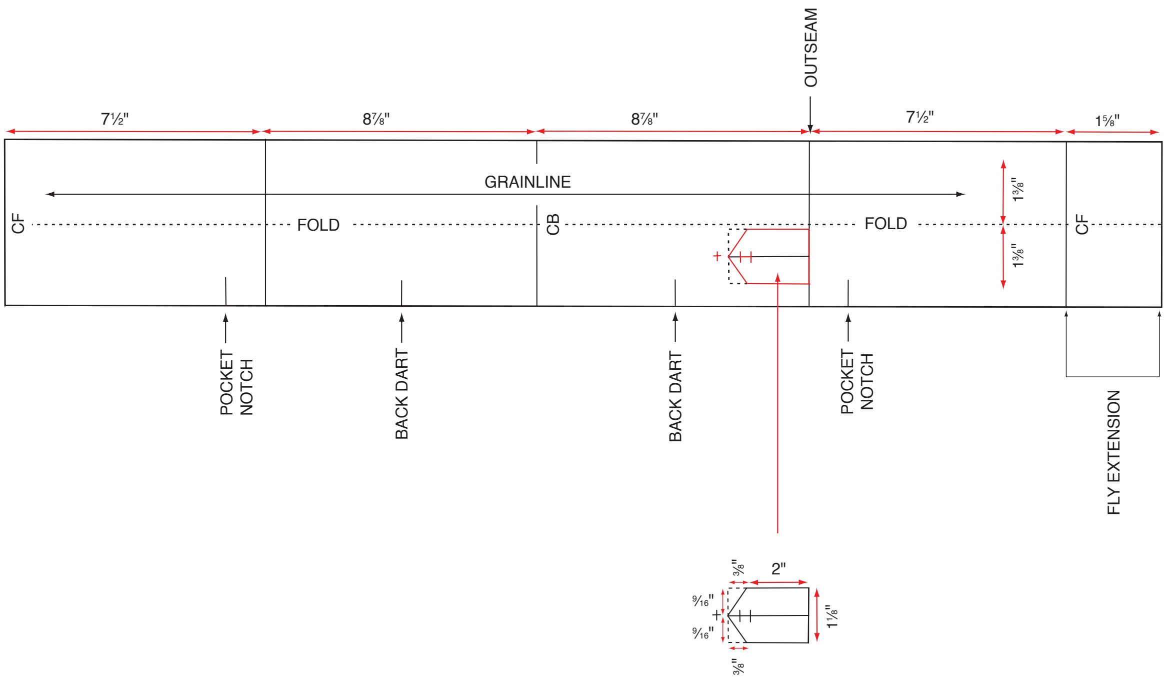


⅜"
⅜"
GRAINLINE
POCKET
FLAP
CUT 2 PR SELF

STEP 19

DEVELOPING THE WAISTBAND

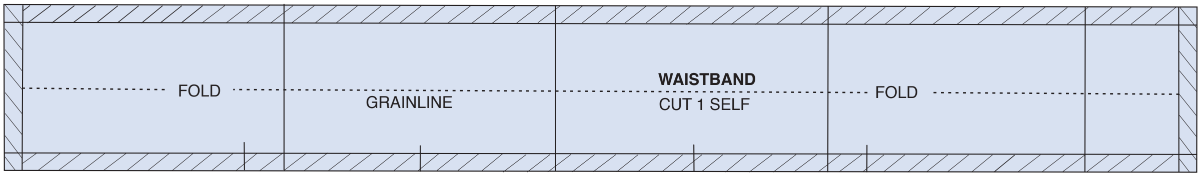
- Create a rectangle 32¾in long (the waist circumference measurement) by 2¾in wide (double the waistband width). Draw a fold line lengthways across the center. Indicate the outside seams and center back, and mark notches for the pocket opening and back darts.
- Add 1⅝in to the center front for the fly extension.
- You can create the outseam tab on top of the waistband, which will allow you to define the correct proportion.
- In this case create the waist side-seam tab 2⅜in long by 1³⁄₁₆in wide. Measure ⅜in in from the left on each long side and connect these points to the center of the left-hand vertical to create the pointed shape of the tab.

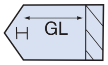

OUTSEAM
7½"
8⅞"
8⅞"
7½"
1⅝"
GRAINLINE
CF
FOLD
CB
FOLD
1⅜"
1⅜"
CF
POCKET NOTCH
BACK DART
BACK DART
POCKET NOTCH
FLY EXTENSION
⅜"
2"
9⁄16"
9⁄16"
1⅛"
⅜"

STEP 20

WAISTBAND PATTERN

- Following the instructions on page 50, trace off the waistband pattern, adding a $3/8$in seam allowance to all sides.
- Trace off the tab pattern, adding a $3/8$in seam allowance to all sides.

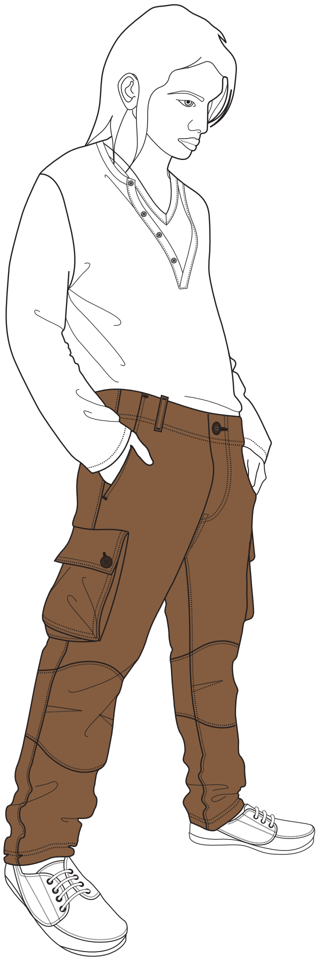

FOLD
GRAINLINE
WAISTBAND
CUT 1 SELF
FOLD

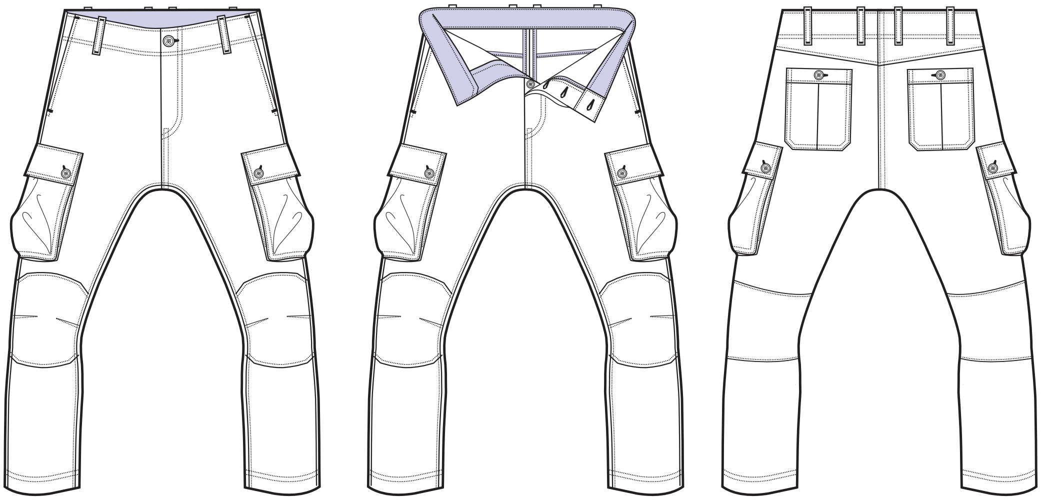


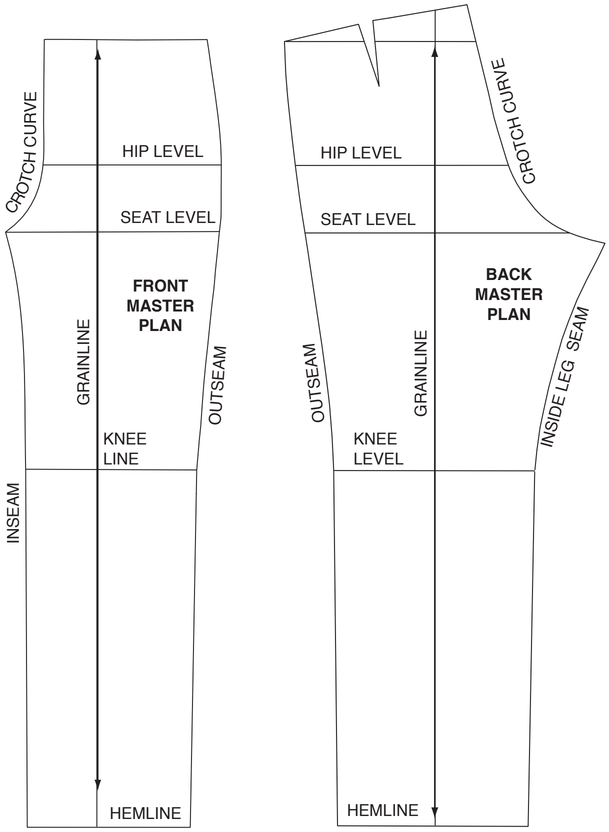
WAISTBAND TAB
CUT 2 PR SELF

PATTERN

CARGO PANTS






CROTCH CURVE
HIP LEVEL
SEAT LEVEL
FRONT MASTER PLAN
GRAINLINE
OUTSEAM
KNEE LINE
INSEAM
HEMLINE
CROTCH CURVE
HIP LEVEL
SEAT LEVEL
BACK MASTER PLAN
OUTSEAM
GRAINLINE
INSIDE LEG SEAM
KNEE LEVEL
HEMLINE

This pattern includes development of the following features:

Lowered front waist and angled crotch curve
Angled center back waist
Dropped crotch
Back yoke
Carrot leg
Shaped knee patches
Front fly, fly facing, fly extension, and button stand
Angled side pockets
Back inverted box-pleat patch pocket
Cargo-style bellows pocket
Sectioned waistband

STEP 1

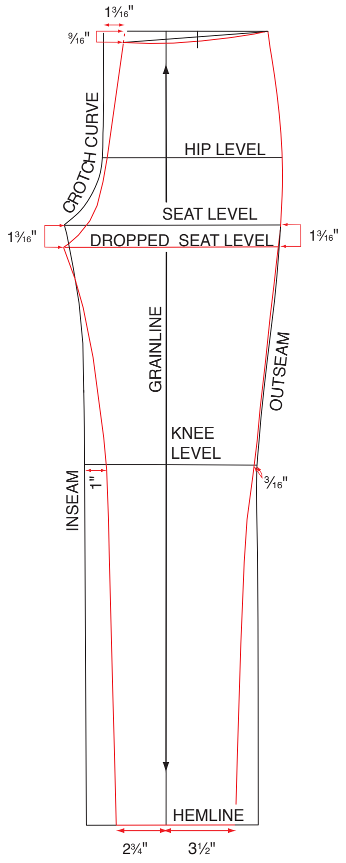
DEVELOPING THE MASTER PLAN

Start by selecting the basic men's pant sloper, or by drafting the basic pant sloper according to the instructions on page 45. Cut a large piece of drafting paper slightly longer than the pant you want to develop and transfer the shape of the sloper and all marks, labels, and instructions, following the directions on page 49.

STEP 2

DEVELOPING THE DROPPED CROTCH, LOWERED FRONT WAIST, AND ANGLED CENTER FRONT WAIST

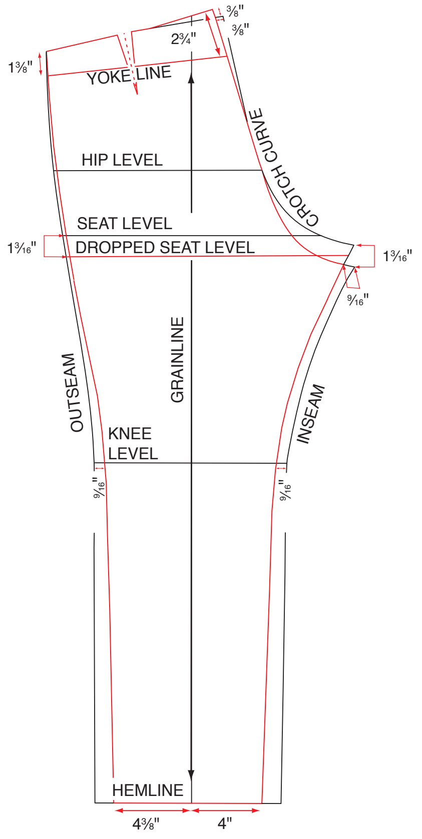
- Drop the seat level down $1\frac{3}{16}$in from the original seat level and redraw the bottom of the front crotch curve and the top of the inseam and outseam.
- From the center front waist point measure in $1\frac{3}{16}$in and from this point measure down $\frac{9}{16}$in. Redraw the new front crotch shape to the dropped crotch and redraw the new lowered waistline with a shallow curve back to the outseam. The remaining $\frac{3}{8}$in will be taken out at the center back waist.
- On the knee level measure in 1in from the inseam and mark, and $\frac{3}{16}$in from the outseam and mark. On the hemline measure out $2\frac{3}{4}$in from the grainline toward the inseam and mark, and $3\frac{1}{2}$in toward the outseam and mark. Redraw the new leg seams to taper the front leg silhouette.


1 3/16"
9/16"
CROTCH CURVE
HIP LEVEL
SEAT LEVEL
1 3/16"
DROPPED SEAT LEVEL
1 3/16"
GRAINLINE
OUTSEAM
KNEE LEVEL
3/16"
INSEAM
1"
HEMLINE
2 3/4"
3 1/2"

STEP 3

DEVELOPING THE DROPPED CROTCH, ANGLED CENTER BACK WAIST, AND BACK YOKE POSITION

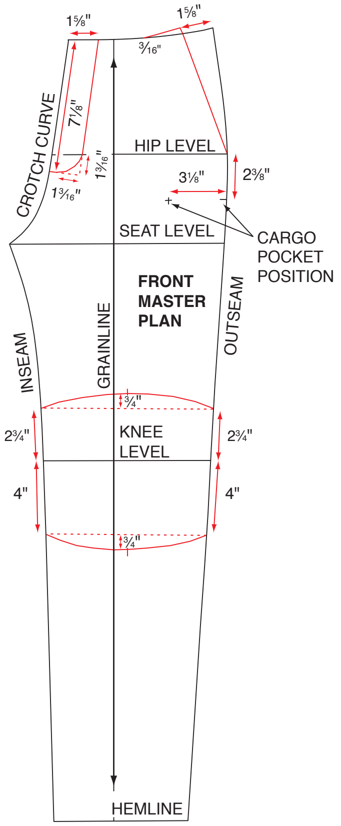
- Drop the seat level down $1\frac{3}{16}$in from the original seat level and redraw the bottom of the back crotch curve and the top of the inseam and outseam.
- From the center back waist point measure in $\frac{3}{8}$in and from this point measure up $\frac{3}{8}$in; redraw the shorter waistline and the longer back crotch curve.
- From the waistline measure $2\frac{3}{4}$in down the crotch curve and mark, and $1\frac{3}{8}$in down the outseam and mark; connect these points with a straight line. This is the yoke line.
- On the knee level measure in $\frac{9}{16}$in from the outseam and mark, and $\frac{9}{16}$in from the inseam and mark. On the hemline measure out $4\frac{3}{8}$in from the grainline toward the outseam and mark, and 4in toward the inseam and mark. Redraw the new leg seams to taper the back leg silhouette.


3/8"
3/8"
2 3/4"
1 3/8"
YOKE LINE
HIP LEVEL
CROTCH CURVE
SEAT LEVEL
1 3/16"
DROPPED SEAT LEVEL
1 3/16"
9/16"
OUTSEAM
GRAINLINE
INSEAM
KNEE LEVEL
9/16"
9/16"
HEMLINE
4 3/8"
4"

STEP 4

DEVELOPING THE FRONT LEG STYLING, FRONT KNEE PATCH, FLY, AND POCKET POSITIONS

- To create the fly shape, measure in 1⅝in from the new center front waist point and from here measure down 7⅛in. At the bottom of this line measure $1\frac{3}{16}$in back up and make a mark, then draw a curved line from this point back to the crotch curve.
- To create the angled pocket opening, measure in 1⅝in along the outseam waist and connect this point back to where the hip level joins the outseam with a straight line.
- Extend the pocket opening line at the waistline by $\frac{3}{16}$in and redraw it, blending the line back to waistline to enlarge the opening.


1⅝"
1⅝"
$\frac{3}{16}$"
CROTCH CURVE
7⅛"
$1\frac{3}{16}$"
$1\frac{3}{16}$"
HIP LEVEL
3⅛"
2⅜"
SEAT LEVEL
CARGO POCKET POSITION
FRONT MASTER PLAN
INSEAM
GRAINLINE
OUTSEAM
¾"
2¾"
KNEE LEVEL
2¾"
4"
4"
¾"
HEMLINE

Enlarging the angled pocket opening to accommodate the width of the hand

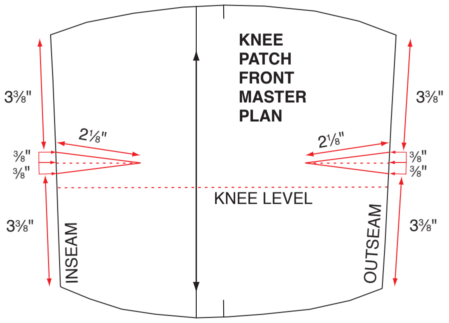
The pocket opening must be enlarged to allow for different hand widths or the pockets will be too tight to use and stretching will occur.

- To mark the cargo pocket position measure 2⅜in down from the bottom of the slit pocket opening and 3⅛in in from that point and mark.
- To develop the front knee patch measure 2¾in up from the knee level on both the outseam and the inseam and square across; measure 4in down from the same points and square across.
- From the center of these lines measure out ¾in; redraw, passing through these points with a curved line.

STEP 5

ADDING DARTS TO THE FRONT KNEE PATCH

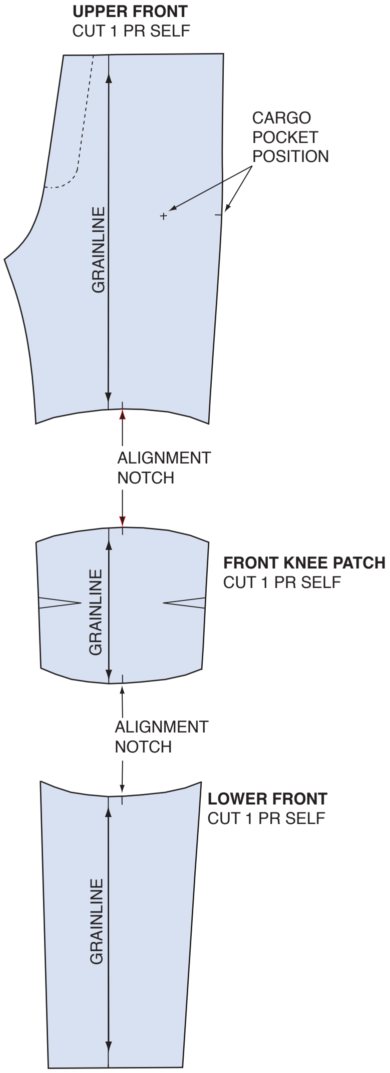
- To add the knee darts trace off the knee patch shape onto a separate piece of paper. Divide it in half horizontally across the center (half the patch height of 6¾in). On both seams measure up ⅜in and down ⅜in from the center and connect each of these points to the center line with a 2⅛in line, forming the darts.


3⅜"
2⅛"
⅜"
⅜"
3⅜"
INSEAM
KNEE PATCH FRONT MASTER PLAN
2⅛"
⅜"
⅜"
3⅜"
KNEE LEVEL
3⅜"
OUTSEAM

STEP 6

FRONT LEG PATTERNS

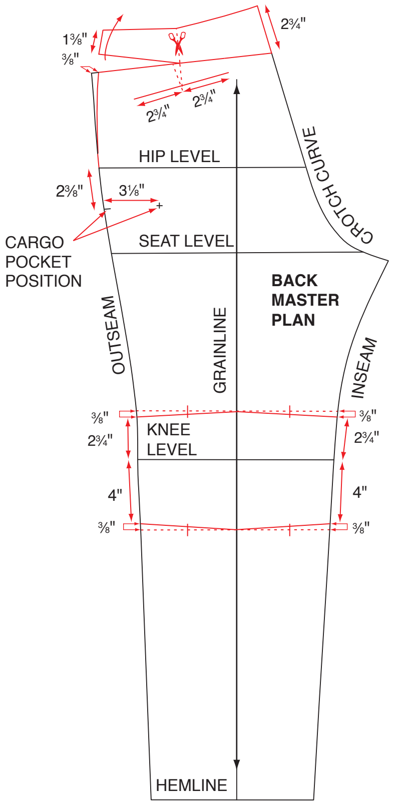
- Following the instructions on page 50, trace off the knee patch pattern and the upper front and lower front leg patterns.


UPPER FRONT
CUT 1 PR SELF
CARGO POCKET POSITION
GRAINLINE
ALIGNMENT NOTCH
FRONT KNEE PATCH
CUT 1 PR SELF
GRAINLINE
ALIGNMENT NOTCH
LOWER FRONT
CUT 1 PR SELF
GRAINLINE

STEP 7

DEVELOPING THE BACK LEG STYLING, BACK KNEE PATCH, BACK YOKE, AND POCKET POSITIONS

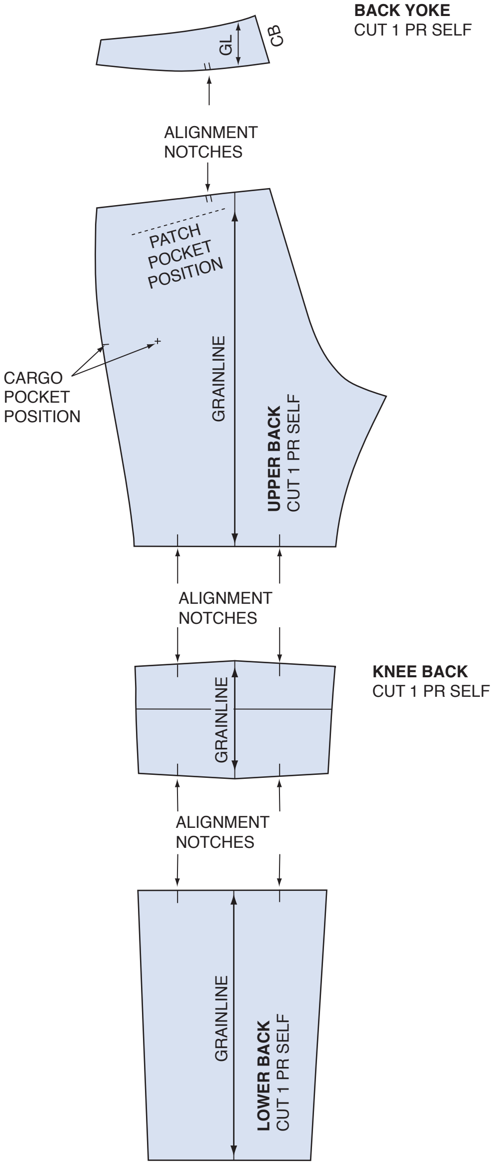
- Trace off the back yoke shape onto a separate piece of paper, cut through the dart legs, and close up to create the curved yoke shape.
- To remove the remaining volume left by the dart leg, measure ⅜in in from the outseam along the yoke line and reshape the outseam from this point back down to the hip level.
- To mark the patch pocket position square out 2¾in in each direction from the bottom of the dart horizontal to the crotch curve.
- To mark the cargo pocket position measure 2⅜in down from the hip level and 3⅛in in from that point and mark.
- To develop the back knee patch measure 2¾in up from the knee level on both the outseam and the inseam and square across; measure 4in down from the same points and square across.
- Find the center of these lines and mark. On both seams measure down ⅜in from the top line and up ⅜in from the bottom line and mark. Shape the knee by joining these points back to the center points with straight lines.


1⅜"
⅜"
2¾"
2¾"
2¾"
HIP LEVEL
2⅜"
3⅛"
CROTCH CURVE
CARGO POCKET POSITION
SEAT LEVEL
BACK MASTER PLAN
OUTSEAM
GRAINLINE
INSEAM
⅜"
2¾"
KNEE LEVEL
⅜"
2¾"
4"
4"
⅜"
⅜"
HEMLINE

STEP 8

BACK LEG PATTERNS

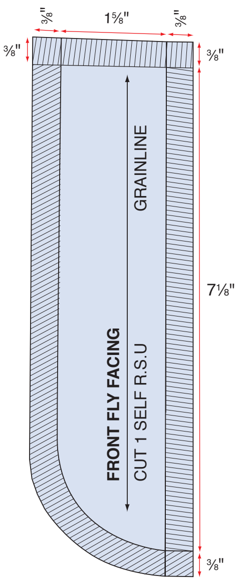
- Following the instructions on page 50, trace off the yoke pattern, the knee back pattern, and the upper back and lower back leg patterns.

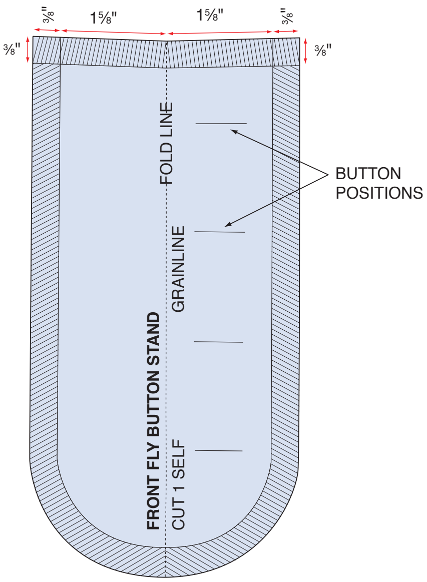

BACK YOKE
CUT 1 PR SELF
GL
CB
ALIGNMENT NOTCHES
PATCH POCKET POSITION
CARGO POCKET POSITION
GRAINLINE
UPPER BACK
CUT 1 PR SELF
ALIGNMENT NOTCHES
KNEE BACK
CUT 1 PR SELF
GRAINLINE
ALIGNMENT NOTCHES
GRAINLINE
LOWER BACK
CUT 1 PR SELF

STEP 9

DEVELOPING THE FRONT FLY FACING AND BUTTON STAND

- Following the instructions on page 50, trace off the fly shape developed in Step 4 onto a separate piece of paper. Flip over the fly shape along the straight edge line and redraw to create a mirror image. Add a 3⁄8in seam allowance to all sides.
- The pattern is folded along the straight line to give double thickness to the buttonholes once positioned.
- Trace off the single fly shape from the left side of the button stand to create the fly facing pattern.


⅜"
1⅝"
⅜"
⅜"
⅜"
GRAINLINE
7⅛"
FRONT FLY FACING
CUT 1 SELF R.S.U
⅜"

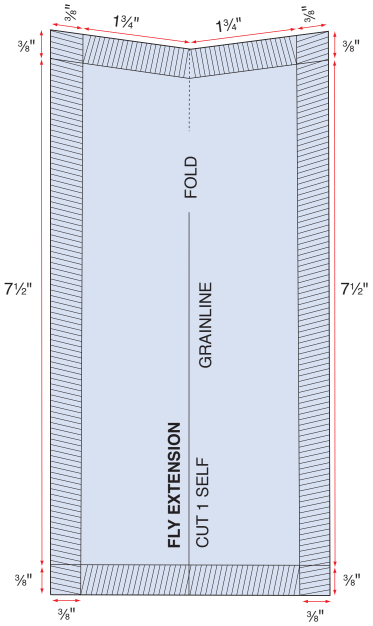

⅜"
1⅝"
1⅝"
⅜"
⅜"
⅜"
FOLD LINE
BUTTON POSITIONS
GRAINLINE
FRONT FLY BUTTON STAND
CUT 1 SELF

STEP 10
DEVELOPING THE FRONT FLY EXTENSION

Fly extension size

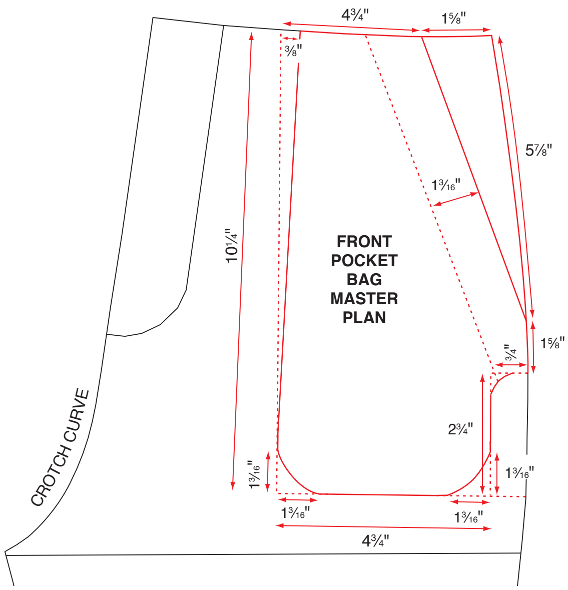
The front fly extension is wider and longer then the fly facing and button stand so that it will cover them both, because multiple seams may cause irritation to the wearer.

- On a separate piece of paper, draw a vertical box 7½in long and 3½in wide to create the fly extension.
- Divide the box in half lengthways, draw a line down the center, and label it *fold*.
- When folded and placed along the front crotch curve the top edge of the fly extension will need to be modified to follow the angle of the waistline. Trace across and redraw.
- Add a ⅜in seam allowance on all sides.


⅜"
1¾"
1¾"
⅜"
⅜"
⅜"
FOLD
7½"
7½"
GRAINLINE
FLY EXTENSION
CUT 1 SELF
⅜"
⅜"
⅜"
⅜"

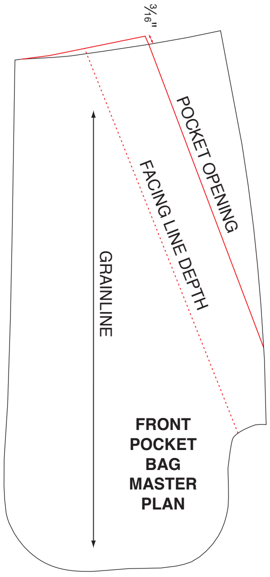
STEP 11
DEVELOPING THE FRONT POCKET BAG

- First recreate the original shape of the front pant leg master plan before the shape for angled side pocket was removed and redraw the pocket opening from Step 4 (without the extension for the enlarged opening).
- Next create the pocket bag template by measuring 4¾in along the waistline from the pocket opening to develop the pocket bag width. From this point square down 10¼in; this is the length of the pocket bag.
- From the bottom of the pocket opening on the outseam, to create a step, measure down 1⅝in and from this point measure in ¾in; from here measure down a further 2¾in and connect this point to the pocket length to close the bag shape.
- To create a slight angle to the side of the pocket bag, at the top of the pocket measure ⅜in back along the waistline toward the outseam and redraw the pocket length. At the bottom of the pocket, round off the corners (1 3⁄16in by 1 3⁄16in), and round off the step.
- Develop the pocket facing depth by measuring in 1 3⁄16in from the opening and connecting the waistline with the step using a parallel curved line.


4¾"
1⅝"
⅜"
5⅞"
1 3⁄16"
10¼"
FRONT
POCKET
BAG
MASTER
PLAN
¾"
1⅝"
2¾"
CROTCH CURVE
1 3⁄16"
1 3⁄16"
1 3⁄16"
1 3⁄16"
1 3⁄16"
4¾"

STEP 12
DEVELOPING THE FRONT POCKET BAG MASTER PLAN

- Trace off the pocket bag shape with the facing depth line onto a separate piece of paper, extend the pocket opening line by 3⁄16in, and redraw, blending the line back to the top edge.

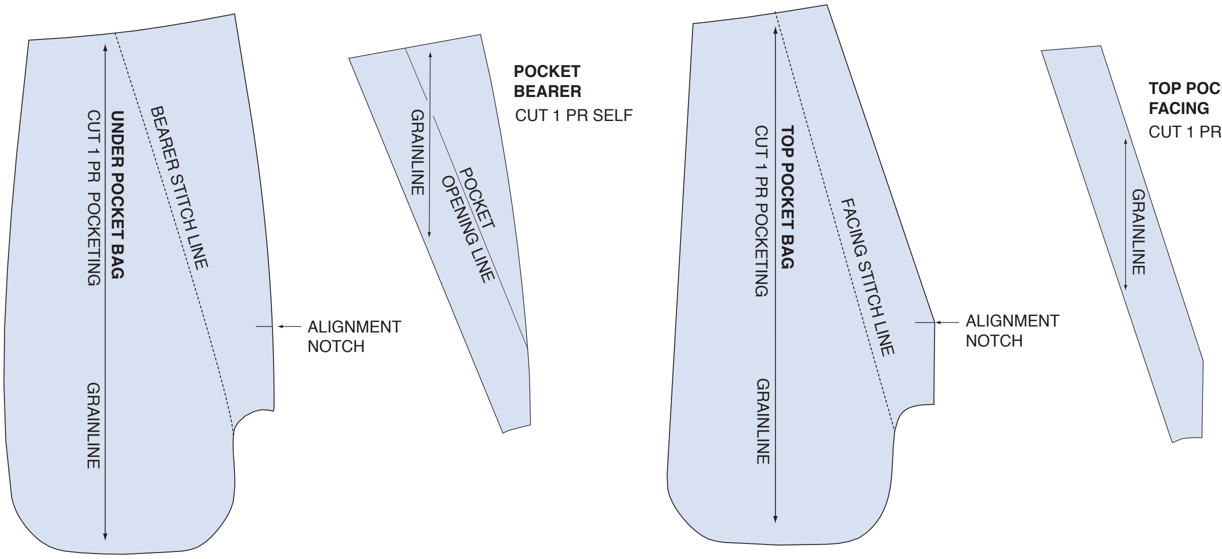

3⁄16"
POCKET OPENING
FACING LINE DEPTH
GRAINLINE
FRONT
POCKET
BAG
MASTER
PLAN

STEP 13
FRONT POCKET BAG COMPONENT PATTERNS

The pocket bearer

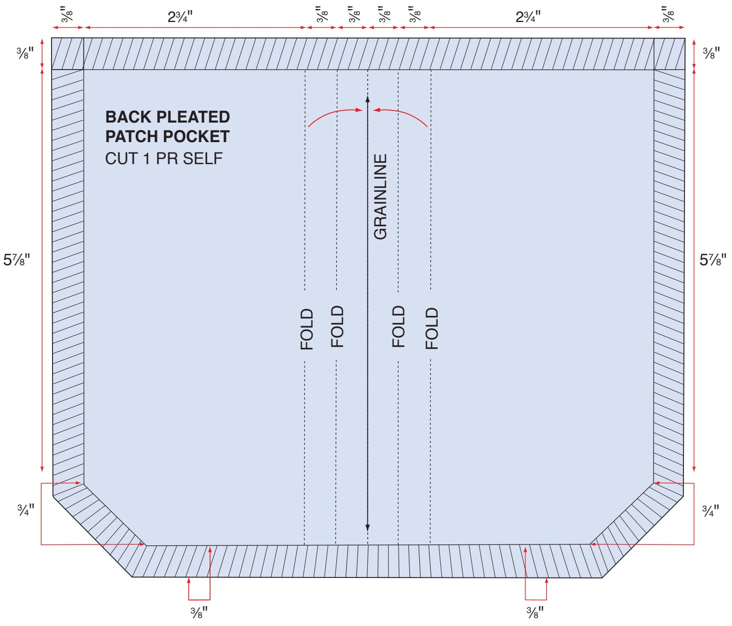
The pocket bearer is cut from the original fabric and is sewn to the waistband and outseam behind the angled pocket opening. It is attached to the pocketing material of the under pocket bag. While the pocket opening was made longer in Step 4, the pocket bearer and under pocket bag will follow the original line of the waistline, holding the dimensions of the pocket parts together.

- Following the instructions on page 50, trace off the top pocket bag pattern and the top pocket facing from the latest development in Step 12, including the extended pocket opening. Trace off the pocket bearer and the under pocket bag without the additional shape formed by the extended pocket opening.


UNDER POCKET BAG
CUT 1 PR POCKETING
BEARER STITCH LINE
GRAINLINE
ALIGNMENT NOTCH
GRAINLINE
POCKET OPENING LINE
POCKET BEARER
CUT 1 PR SELF
TOP POCKET BAG
CUT 1 PR POCKETING
FACING STITCH LINE
GRAINLINE
ALIGNMENT NOTCH
GRAINLINE
TOP POCKET FACING
CUT 1 PR SELF

STEP 14
DEVELOPING THE BACK INVERTED BOX-PLEAT PATCH POCKET AND PANEL TOP

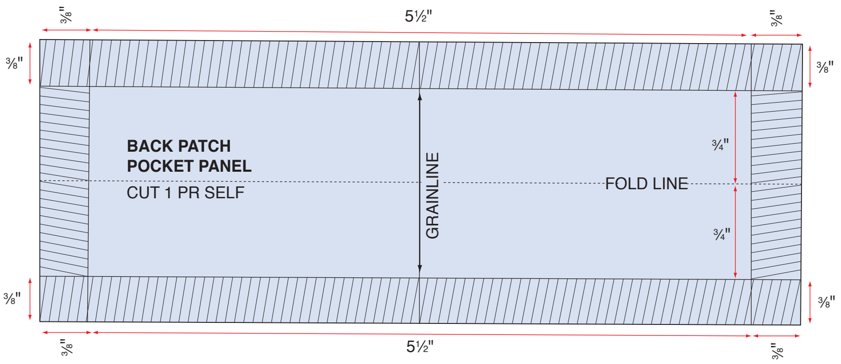
- For the patch pocket draw a rectangle 7in wide and 6⅝in deep.
- From the top of the center line measure out ⅜in on both sides and mark, and then a further ⅜in on both sides and mark. Repeat at the bottom of the vertical line. Join all these points with dotted vertical lines and label each *fold*. The two outside lines will be folded toward the center line to create the hidden inverted box pleat.
- From the left bottom corner measure up ¾in and mark, and measure across ¾in and mark. Join these two points to create a shaved corner. Repeat at the right bottom corner.
- Add a ⅜in seam allowance on all sides.


⅜"
2¾"
⅜"
⅜"
⅜"
⅜"
2¾"
⅜"
⅜"
⅜"
BACK PLEATED
PATCH POCKET
CUT 1 PR SELF
GRAINLINE
5⅞"
5⅞"
FOLD
FOLD
FOLD
FOLD
¾"
¾"
⅜"
⅜"

STEP 15

DEVELOPING THE PANEL TOP FOR THE BACK INVERTED BOX-PLEAT PATCH POCKET

- For the panel top of the patch pocket draw a horizontal rectangle $5\frac{1}{2}$in long by $1\frac{1}{2}$in wide. Divide it in half lengthways and draw in a dotted fold line. This will give a panel facing of $\frac{3}{4}$in.
- Add a $\frac{3}{8}$in seam allowance on all sides.

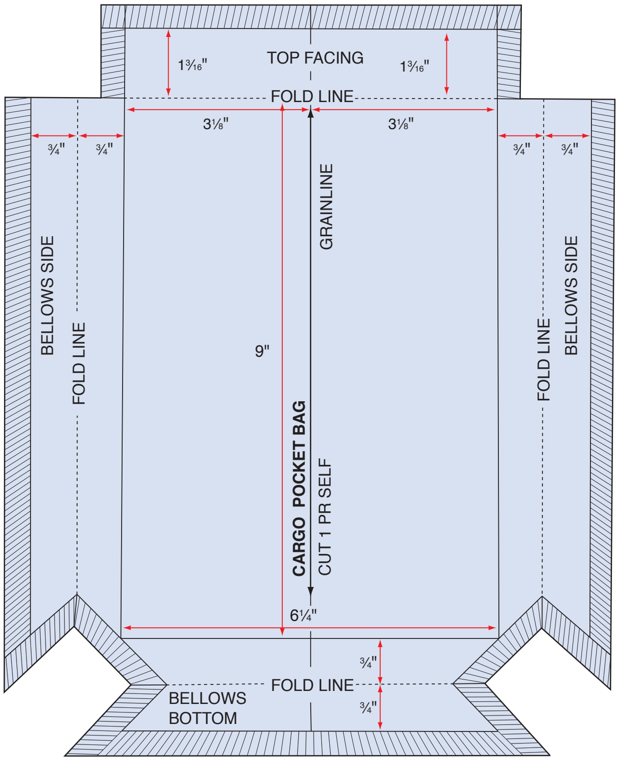


5½"
⅜"
⅜"
⅜"
⅜"
BACK PATCH
POCKET PANEL
CUT 1 PR SELF
GRAINLINE
¾"
FOLD LINE
¾"
⅜"
⅜"
⅜"
⅜"
5½"

STEP 16

DEVELOPING THE CARGO-STYLE BELLOWS POCKET

- The bellows sides and bottom are developed onto the pocket front. Start by drawing a vertical rectangle 9in long by $6\frac{1}{4}$in wide.
- Along the top edge of this shape add a $1\frac{3}{16}$in facing strip.
- To create the bellows sides, on each side of the pocket measure out $1\frac{1}{2}$in from the original top line and $1\frac{1}{2}$in from the bottom line and join these two points. Draw a fold line down the middle.
- For the bottom bellows strip, draw a similar $1\frac{1}{2}$in rectangle at the bottom edge, with a center fold line.
- To create the two cutaway corner shapes, draw a line at 45 degrees to each bottom corner and square out from this $\frac{3}{4}$in in each direction. Draw three sides of a $1\frac{1}{2}$in square, cutting into the bellows strips. When sewn these shapes will create mitered corners when the bellows are folded.
- Add a $\frac{3}{8}$in seam allowance to all sides except the top of the bellows side panels.

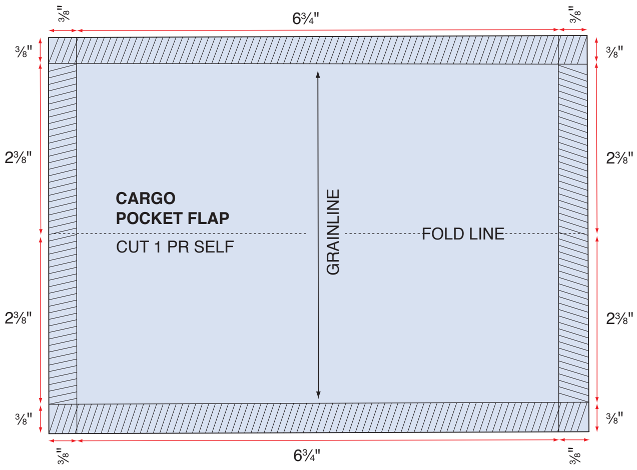


1³⁄₁₆"
TOP FACING
1³⁄₁₆"
FOLD LINE
3⅛"
3⅛"
¾"
¾"
¾"
¾"
GRAINLINE
BELLOWS SIDE
FOLD LINE
9"
CARGO POCKET BAG
CUT 1 PR SELF
FOLD LINE
BELLOWS SIDE
6¼"
¾"
FOLD LINE
BELLOWS
BOTTOM
¾"

STEP 17

DEVELOPING THE CARGO POCKET FLAP

- To develop the pocket flap, draw a rectangle $6\frac{3}{4}$in long and $4\frac{3}{4}$in wide. Divide the width in half $2\frac{3}{8}$in by $2\frac{3}{8}$in with a dotted line the length of the pattern. This will be the fold line when constructed.
- Add a $\frac{3}{8}$in seam allowance to all sides.



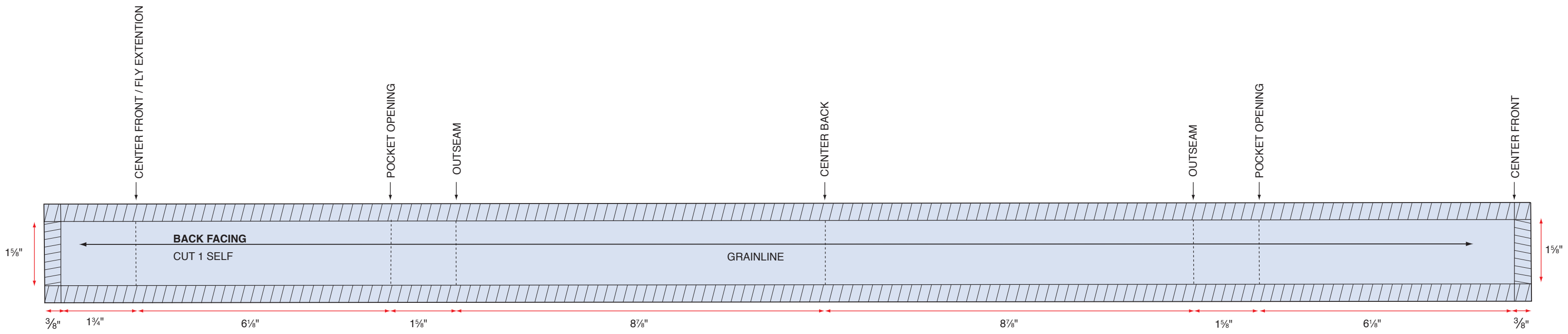
⅜"
6¾"
⅜"
⅜"
⅜"
2⅜"
2⅜"
CARGO
POCKET FLAP
CUT 1 PR SELF
GRAINLINE
FOLD LINE
2⅜"
2⅜"
⅜"
⅜"
⅜"
6¾"
⅜"

STEP 18

DEVELOPING THE WAISTBAND FACING

> This waistband is developed in two parts. The inside facing is one full piece while the outside is segmented into parts that match the pocket openings.

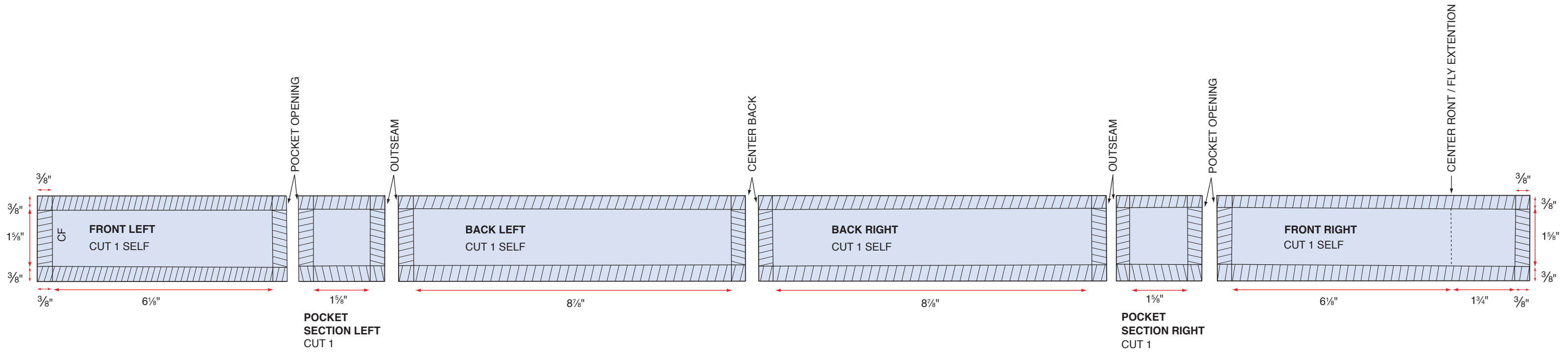
- To develop the facing, on a separate piece of paper, draw a horizontal box 1⅝in wide by 34⅞in long (33⅛in waist measurement + 1¾in fly extension), then notch the positions of the following for alignment—pockets, outseams, and center back—by measuring them from the waistline on the front and back pant patterns.
- Add a ⅜in seam allowance to all sides to create the final facing pattern.

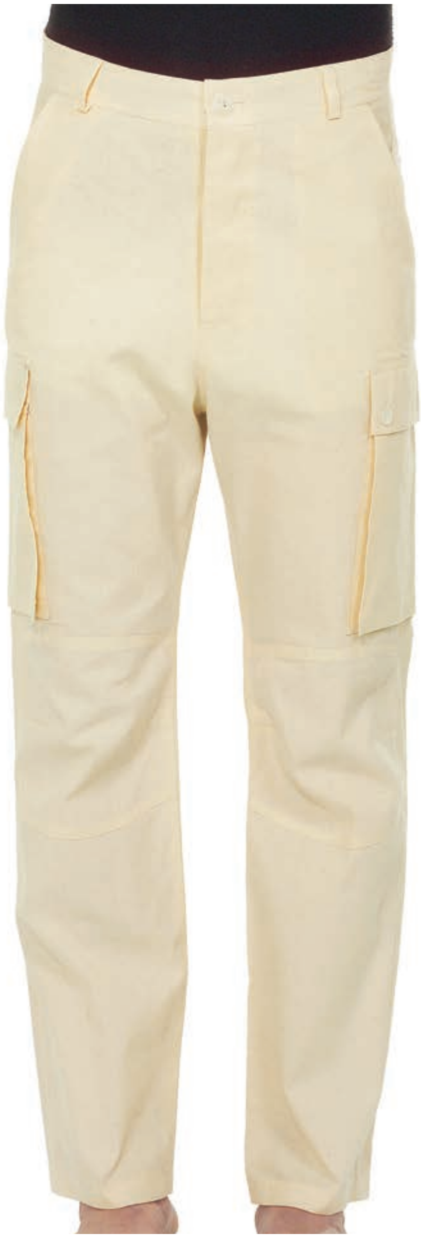

CENTER FRONT / FLY EXTENTION
POCKET OPENING
OUTSEAM
CENTER BACK
OUTSEAM
POCKET OPENING
CENTER FRONT
BACK FACING
CUT 1 SELF
GRAINLINE
1⅝"
1⅝"
⅜"
1¾"
6⅛"
1⅝"
8⅞"
8⅞"
1⅝"
6⅛"
⅜"

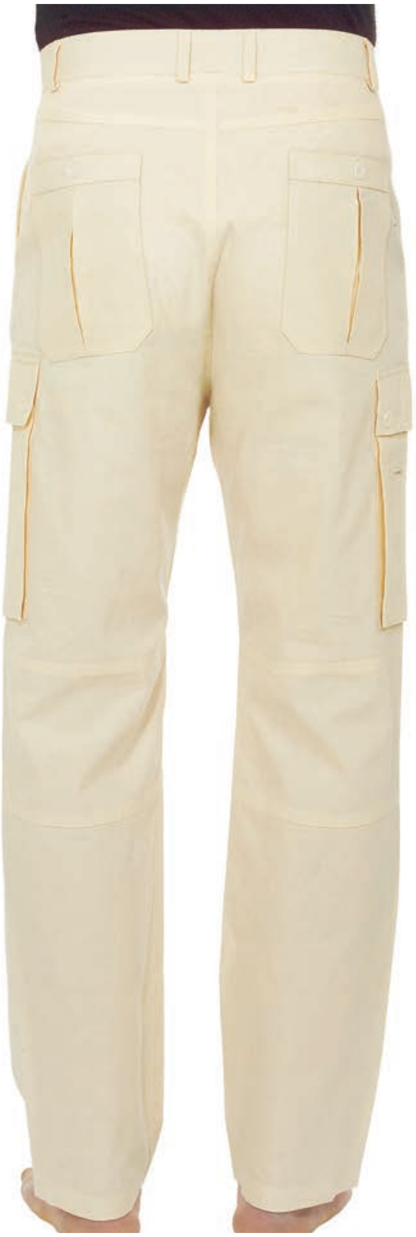
STEP 19

DEVELOPING THE WAISTBAND

- To develop the waistband, create separate panel patterns 1⅝in wide and the following in length: front left (6⅛in), pocket section left (1⅝in), back left (8⅞in), back right (8⅞in), pocket section right (1⅝in), and front right including fly extension (7⅞in).
- Add a ⅜in seam allowance to all sides to create the final patterns.

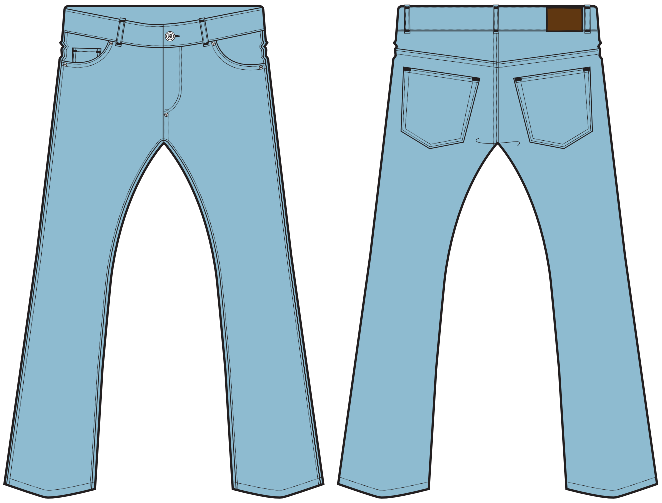

POCKET OPENING
OUTSEAM
CENTER BACK
OUTSEAM
POCKET OPENING
CENTER RONT / FLY EXTENTION
⅜"
⅜"
1⅝"
⅜"
CF
FRONT LEFT
CUT 1 SELF
BACK LEFT
CUT 1 SELF
BACK RIGHT
CUT 1 SELF
FRONT RIGHT
CUT 1 SELF
⅜"
⅜"
1⅝"
⅜"
⅜"
6⅛"
1⅝"
POCKET
SECTION LEFT
CUT 1
8⅞"
8⅞"
1⅝"
POCKET
SECTION RIGHT
CUT 1
6⅛"
1¾"
⅜"



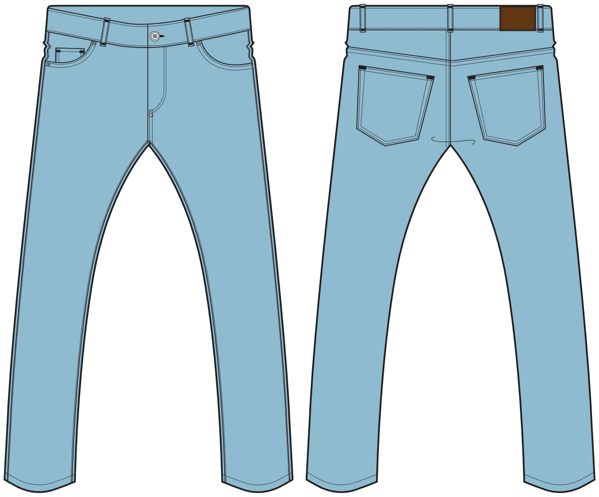


PATTERN

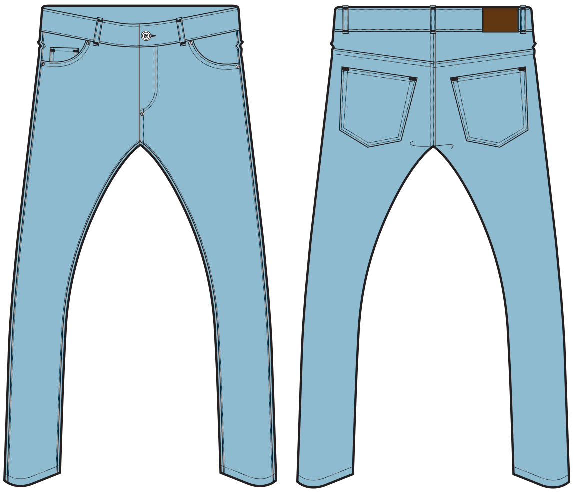
JEANS



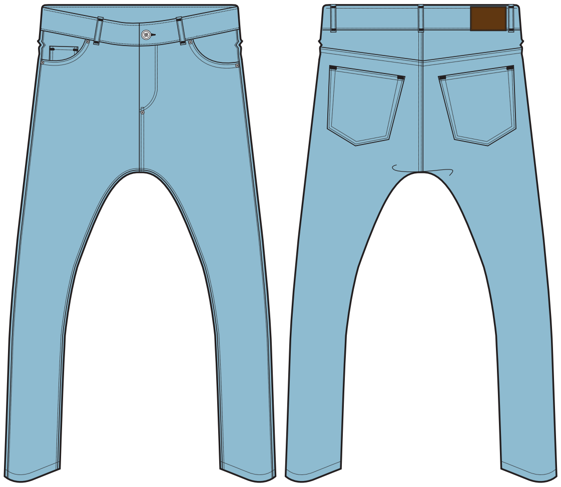
Bootcut leg



Straight leg



Skinny leg



Carrot leg

Shrinkage

Shrinkage is not included in this adaptation of the jeans pattern. All raw cotton denim shrinks when washed. A shrink test should be carried out first. Cut a square yard, apply the washing technique relevant to the final product, and remeasure the square yard: This will give you the ratio by which the square has shrunk, which you can then apply to the pattern by increasing the width and length. Alternatively, make the jeans in their entirety and then apply the washing technique relevant to the style. Remeasure the jeans and adapt the pattern to accommodate the shrinkage ratio.

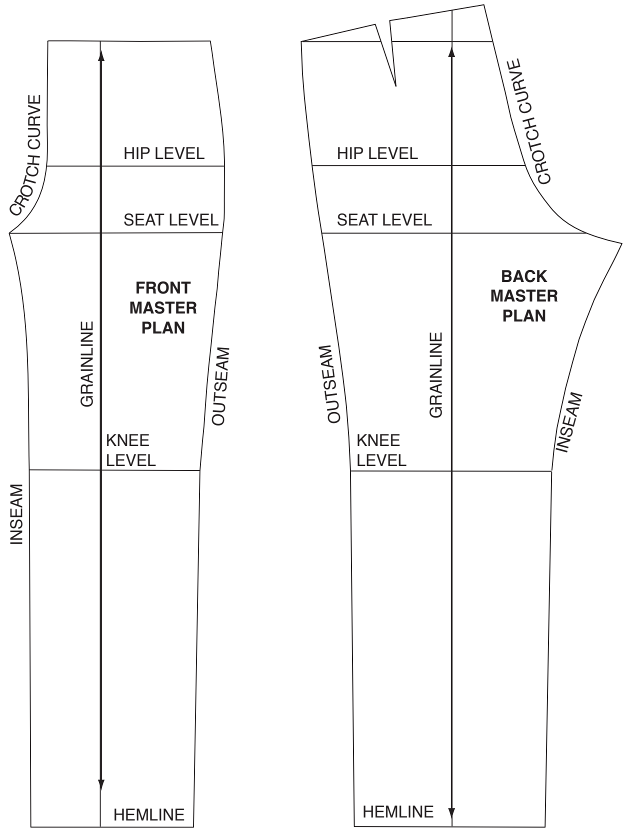
This pattern includes development of the following features:

Lowered front waist and angled crotch curve
Raised center back waist
Back yoke
Straight legs, bootcut legs, carrot legs, skinny legs
Jeans pocket
Coin pocket
Back patch pocket
Straight waistband

STEP 1

DEVELOPING THE MASTER PLAN

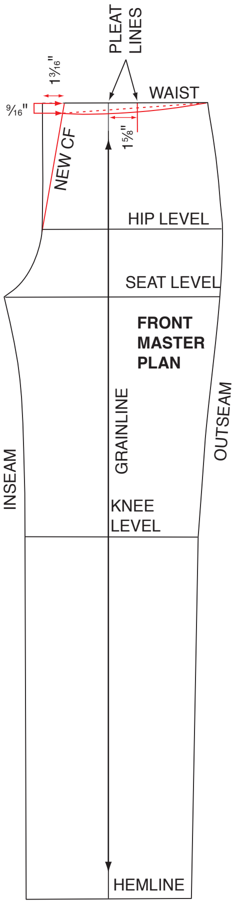
Start by selecting the basic men's pant sloper, or by drafting the basic pant sloper according to the instructions on page 45. Cut a large piece of drafting paper slightly longer than the pant you want to develop and transfer the shape of the sloper and all marks, labels, and instructions, following the directions on page 49.


CROTCH CURVE
HIP LEVEL
SEAT LEVEL
FRONT MASTER PLAN
GRAINLINE
OUTSEAM
KNEE LEVEL
INSEAM
HEMLINE
HIP LEVEL
SEAT LEVEL
CROTCH CURVE
BACK MASTER PLAN
OUTSEAM
GRAINLINE
INSEAM
KNEE LEVEL
HEMLINE

STEP 2

DEVELOPING THE LOWERED FRONT WAIST AND ANGLED CROTCH CURVE

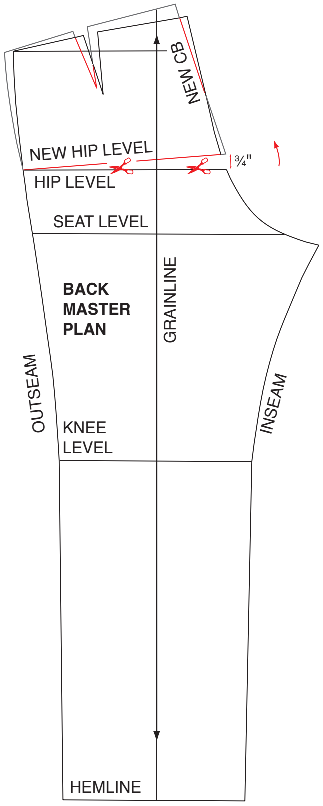
- Remove the $1\frac{5}{8}$in pleat volume by angling back the front rise. From the center front waist point measure in $1\frac{3}{16}$in and from this point measure down $\frac{9}{16}$in. Redraw the new front crotch curve shape down to the crotch point.


PLEAT LINES
1 3/16"
WAIST
9/16"
1 5/8"
NEW CF
HIP LEVEL
SEAT LEVEL
FRONT MASTER PLAN
INSEAM
GRAINLINE
OUTSEAM
KNEE LEVEL
HEMLINE

STEP 3

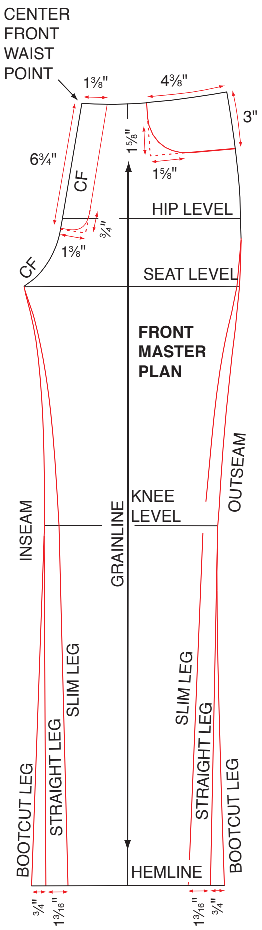
DEVELOPING THE RAISED CENTER BACK WAIST

- From the crotch curve cut along the hip level toward the outseam. Open up the back crotch curve $\frac{3}{4}$in and redraw the new position of the waist top.


NEW CB
NEW HIP LEVEL
3/4"
HIP LEVEL
SEAT LEVEL
BACK MASTER PLAN
GRAINLINE
OUTSEAM
INSEAM
KNEE LEVEL
HEMLINE

STEP 4
DEVELOPING THE FRONT FLY, JEANS POCKET, AND LEG SILHOUETTES

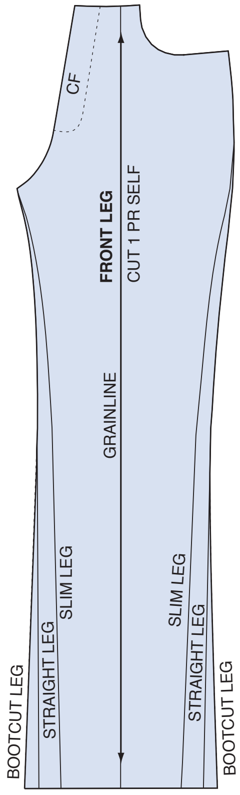
- To create the fly shape, measure in $1\frac{3}{8}$in from the center front waist point and from here measure down $6\frac{3}{4}$in to create a rectangular fly shape. At the bottom of this line measure $\frac{3}{4}$in back up and make a mark; draw a curved line from this point back to the crotch curve.
- From the outseam waist point measure back $4\frac{3}{8}$in and down 3in and create a rectangle. At the bottom left corner of the rectangle measure $1\frac{5}{8}$in along and $1\frac{5}{8}$in up and join the points to create a rounded opening.
- The original outseam of the master plan is the outseam for the straight leg silhouette. To create the slim leg silhouette measure in $1\frac{3}{16}$in from both seams along the hemline and redraw the seams up to the seat level.
- To create the bootcut silhouette measure out $\frac{3}{4}$in from both seams along the hemline and redraw the seams up to the knee.



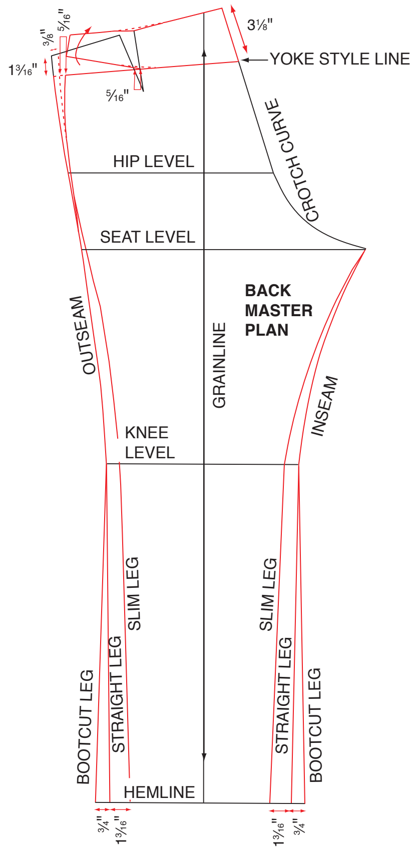
CENTER FRONT WAIST POINT
1⅜"
4⅜"
3"
6¾"
CF
1⅝"
1⅝"
HIP LEVEL
¾"
1⅜"
CF
SEAT LEVEL
FRONT MASTER PLAN
OUTSEAM
KNEE LEVEL
INSEAM
GRAINLINE
SLIM LEG
STRAIGHT LEG
BOOTCUT LEG
SLIM LEG
STRAIGHT LEG
BOOTCUT LEG
HEMLINE
¾"
1³⁄₁₆"
1³⁄₁₆"
¾"

STEP 5
FRONT LEG PATTERN

- Following the instructions on page 50, trace off the front pant leg pattern using the desired leg silhouette.



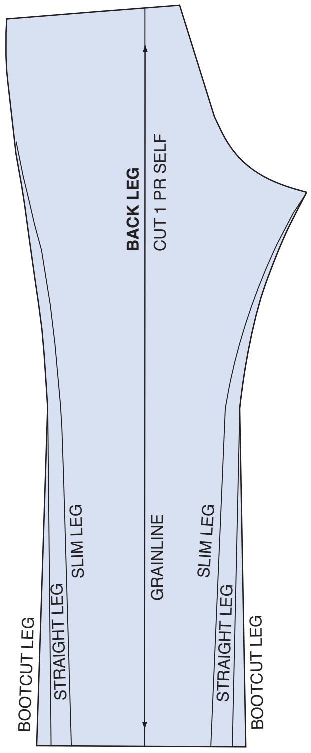
CF
FRONT LEG
CUT 1 PR SELF
GRAINLINE
SLIM LEG
STRAIGHT LEG
BOOTCUT LEG
SLIM LEG
STRAIGHT LEG
BOOTCUT LEG


3⁄8"
5⁄16"
1 3⁄16"
5⁄16"
3 1⁄8"
YOKE STYLE LINE
HIP LEVEL
CROTCH CURVE
SEAT LEVEL
BACK MASTER PLAN
OUTSEAM
GRAINLINE
INSEAM
KNEE LEVEL
SLIM LEG
SLIM LEG
BOOTCUT LEG
STRAIGHT LEG
STRAIGHT LEG
BOOTCUT LEG
HEMLINE
3⁄4"
1 3⁄16"
1 3⁄16"
3⁄4"

STEP 6

DEVELOPING THE BACK YOKE SHAPE AND LEG SILHOUETTES

- From the waistline, measure 3 1⁄8in down the crotch curve and mark, and 1 3⁄16in down the outseam and mark; connect the points with a straight line. This is the yoke line.
- Measuring along the waistline, remove 3⁄8in from the outseam, which is extra volume left by the front pleat.
- Trace off the back yoke shape onto a separate piece of paper, cut through the dart legs, and close up to create the curved yoke shape.
- To remove the remaining volume left by the dart leg, measure 5⁄16in in from the outseam along the waistline and reshape the outseam from this point.
- The original outseam of the master plan is the outseam for the straight leg silhouette. To create the slim leg silhouette measure in 1 3⁄16in from both seams along the hemline and redraw the seams up to the seat level.
- To create the bootcut silhouette measure out 3⁄4in from both seams along the hemline and redraw the seams up to the knee.


BACK LEG
CUT 1 PR SELF
SLIM LEG
SLIM LEG
GRAINLINE
BOOTCUT LEG
STRAIGHT LEG
STRAIGHT LEG
BOOTCUT LEG

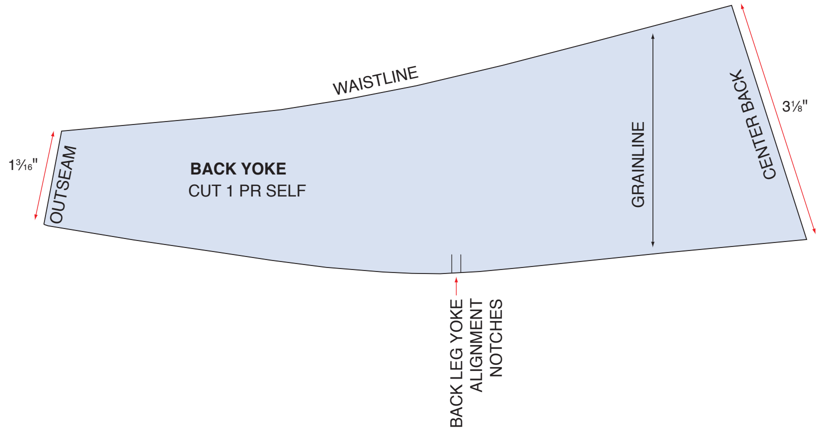
STEP 7

BACK LEG PATTERN

- Following the instructions on page 50, trace off the back pant leg pattern using the desired leg silhouette.

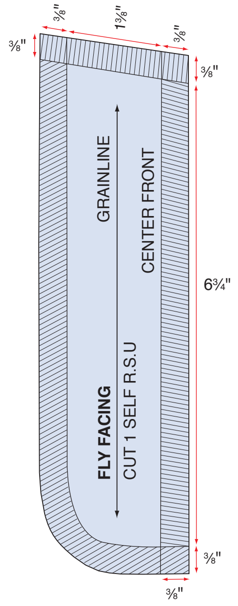
STEP 8
BACK YOKE PATTERN

- Following the instructions on page 50, trace off the final back yoke pattern. Seam allowance is not added as many seam variations are possible in jeans construction. The two most commonly used are flat felled seams and lapped seams; the former usually has a seam allowance of 3⁄8in and the latter 3⁄16.


WAISTLINE
BACK YOKE
CUT 1 PR SELF
GRAINLINE
CENTER BACK
3⅛"
1³⁄₁₆"
OUTSEAM
BACK LEG YOKE ALIGNMENT NOTCHES

STEP 9
FRONT FLY FACING PATTERN

- Following the instructions on page 50, trace off the fly shape developed in Step 4 onto a separate piece of paper and flip it over, adding a 3⁄8in seam allowance to all sides to create the final fly facing.

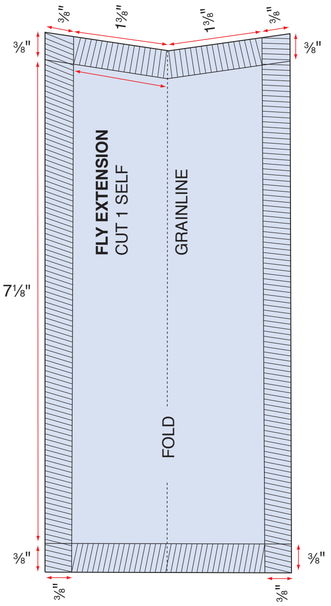

⅜"
1⅜"
⅜"
⅜"
⅜"
GRAINLINE
CENTER FRONT
6¾"
FLY FACING
CUT 1 SELF R.S.U
⅜"
⅜"

STEP 10
FRONT FLY EXTENSION PATTERN

Front fly extension size

`The front fly extension is longer than the fly facing so that it will cover it, because multiple seams may cause irritation to the wearer.`

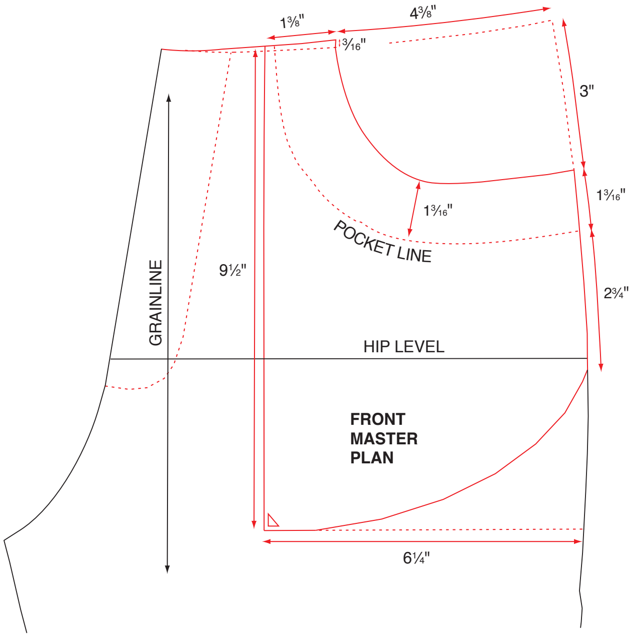
- On a separate piece of paper, draw a vertical box 71⁄8in long by 23⁄4in wide.
- Divide the box in half lengthways, draw a line down the center, and label it *fold*.
- When folded and placed along the front crotch curve the top edge of the fly extension will need to be modified to follow the angle of the waistline. Trace across and redraw.
- Add a 3⁄8in seam allowance on all sides.


⅜"
1⅜"
1⅜"
⅜"
⅜"
⅜"
FLY EXTENSION
CUT 1 SELF
GRAINLINE
7⅛"
FOLD
⅜"
⅜"
⅜"
⅜"

STEP 11

DEVELOPING THE FRONT JEANS POCKET BAG AND BEARER

- Extend the pocket opening line $\frac{3}{16}$in above the waistline to allow for the width of the hand. From this point measure a further $1\frac{3}{8}$in toward the center front to create the pocket bag width. From here square down $9\frac{1}{2}$in and mark; then square back $6\frac{1}{4}$in to the outseam.
- Develop the pocket opening facing and bearer depth by drawing a line $1\frac{3}{16}$in from and parallel with the opening line.
- From the opening line on the outseam measure $1\frac{3}{16}$in down (the facing depth) and a further $2\frac{3}{4}$in and mark. Connect this point with the end of the pocket depth line using a descending curve.

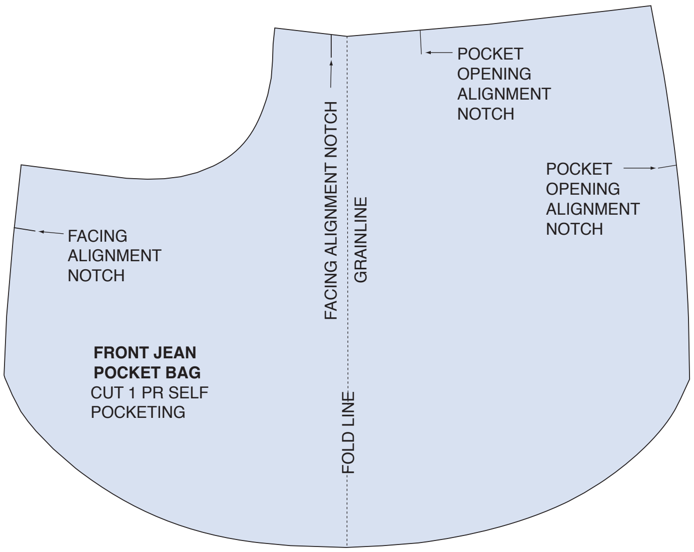


$1\frac{3}{8}$"
$4\frac{3}{8}$"
$\frac{3}{16}$"
3"
$1\frac{3}{16}$"
$1\frac{3}{16}$"
POCKET LINE
$9\frac{1}{2}$"
GRAINLINE
$2\frac{3}{4}$"
HIP LEVEL
FRONT MASTER PLAN
$6\frac{1}{4}$"

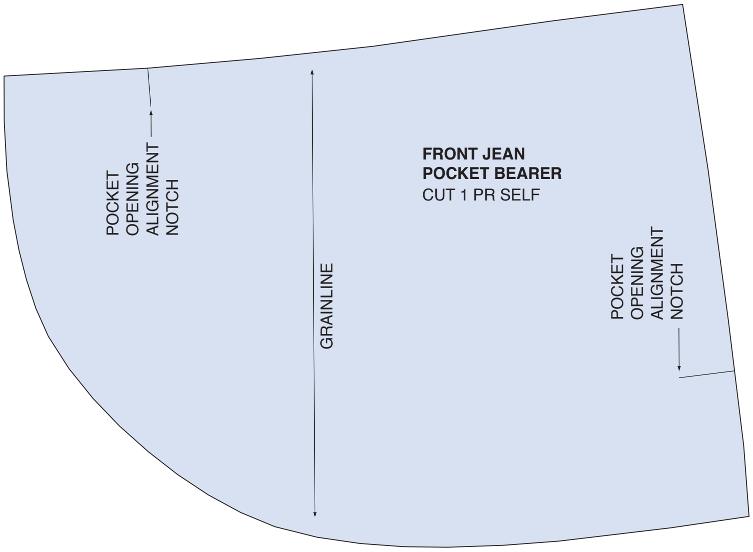
STEP 12

FRONT JEANS POCKET BAG AND BEARER PATTERNS

- The jeans pocket bag is constructed in one piece. Trace off the pocket bag shape from the master plan mirroring it over using the left-hand side as the fold line. Remove the pocket opening shape from the left side.
- Trace off the final pocket bearer shape from the front pocket master plan.



POCKET OPENING ALIGNMENT NOTCH
POCKET OPENING ALIGNMENT NOTCH
FACING ALIGNMENT NOTCH
FACING ALIGNMENT NOTCH
GRAINLINE
FOLD LINE
FRONT JEAN POCKET BAG
CUT 1 PR SELF POCKETING

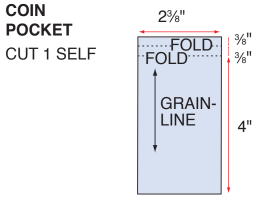


POCKET OPENING ALIGNMENT NOTCH
GRAINLINE
FRONT JEAN POCKET BEARER
CUT 1 PR SELF
POCKET OPENING ALIGNMENT NOTCH

STEP 13

DEVELOPING THE COIN POCKET PATTERN

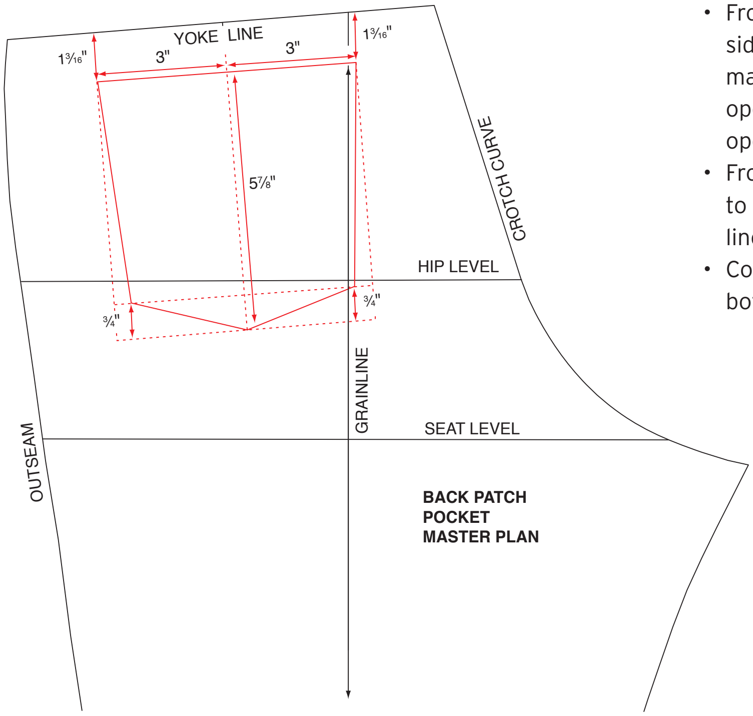
- Draw a rectangle $2\frac{3}{8}$in wide by 4in long. At one end, along the shorter side, mark two fold lines $\frac{3}{8}$in apart.



COIN POCKET
CUT 1 SELF
$2\frac{3}{8}$"
FOLD
FOLD
$\frac{3}{8}$"
$\frac{3}{8}$"
GRAIN-LINE
4"

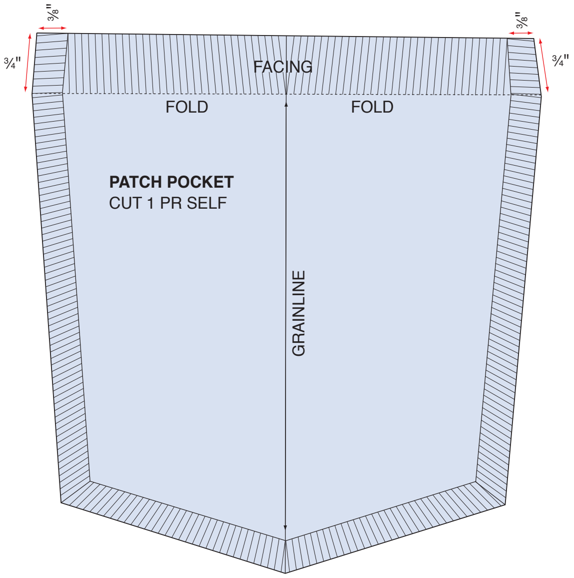
STEP 14
DEVELOPING THE BACK PATCH POCKET BAG

- From the center point of the yoke line measure out 3in each side and from each of these points square down $1\frac{3}{16}$in and mark. Draw a line between these two points; this is the top opening of the patch pocket. From the center point of the opening, square down $5\frac{7}{8}$in and mark.
- From this point measure up $\frac{3}{4}$in and mark. Square out $2\frac{1}{2}$in to each side, and connect these points up to the top opening line to give an angled pocket shape.
- Connect the same points down to the center point on the bottom line.


YOKE LINE
1 3/16"
3"
3"
1 3/16"
5 7/8"
CROTCH CURVE
HIP LEVEL
3/4"
3/4"
GRAINLINE
SEAT LEVEL
OUTSEAM
BACK PATCH
POCKET
MASTER PLAN

STEP 15
BACK PATCH POCKET BAG PATTERN

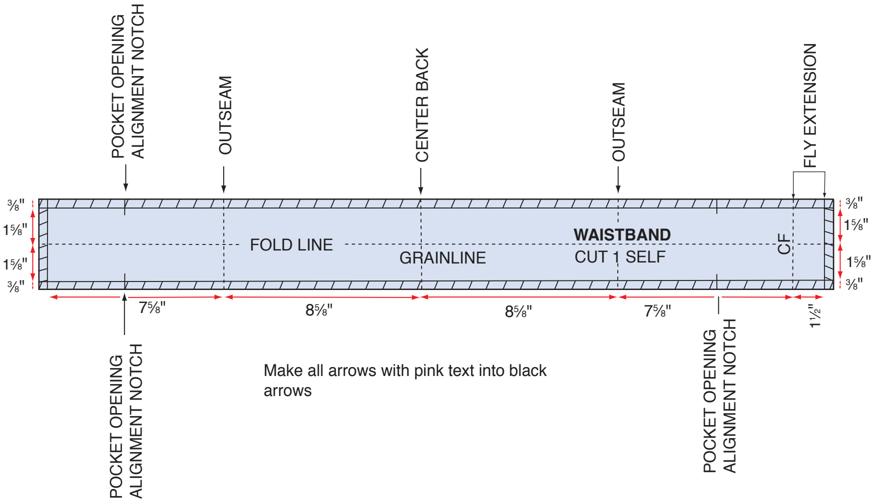
- Following the instructions on page 50, trace off the patch pocket bag pattern and add a $\frac{3}{4}$in folded facing at the top and a $\frac{3}{8}$in seam allowance to all other sides to create the final pattern.


3/8"
3/8"
3/4"
3/4"
FACING
FOLD
FOLD
PATCH POCKET
CUT 1 PR SELF
GRAINLINE

STEP 16

DEVELOPING THE WAISTBAND

- Draw a rectangle 3¼in wide by 34in long (31⅞in waist measurement plus ⅝in ease plus 1½in fly extension measurement) with the fly extension marked at the right-hand end. Draw a fold line down the center lengthways.
- Add a ⅜in seam allowance to all sides.
- Notch the center front, pocket openings, outseams, and center back.


POCKET OPENING ALIGNMENT NOTCH
OUTSEAM
CENTER BACK
OUTSEAM
FLY EXTENSION
⅜"
1⅝"
1⅝"
⅜"
FOLD LINE
GRAINLINE
WAISTBAND
CUT 1 SELF
CF
⅜"
1⅝"
1⅝"
⅜"
7⅝"
8⅝"
8⅝"
7⅝"
1½"
POCKET OPENING ALIGNMENT NOTCH
POCKET OPENING ALIGNMENT NOTCH

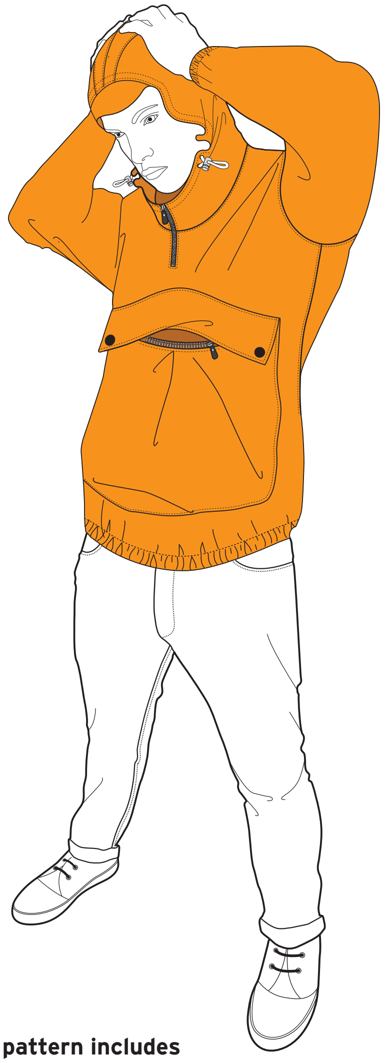
Make all arrows with pink text into black arrows

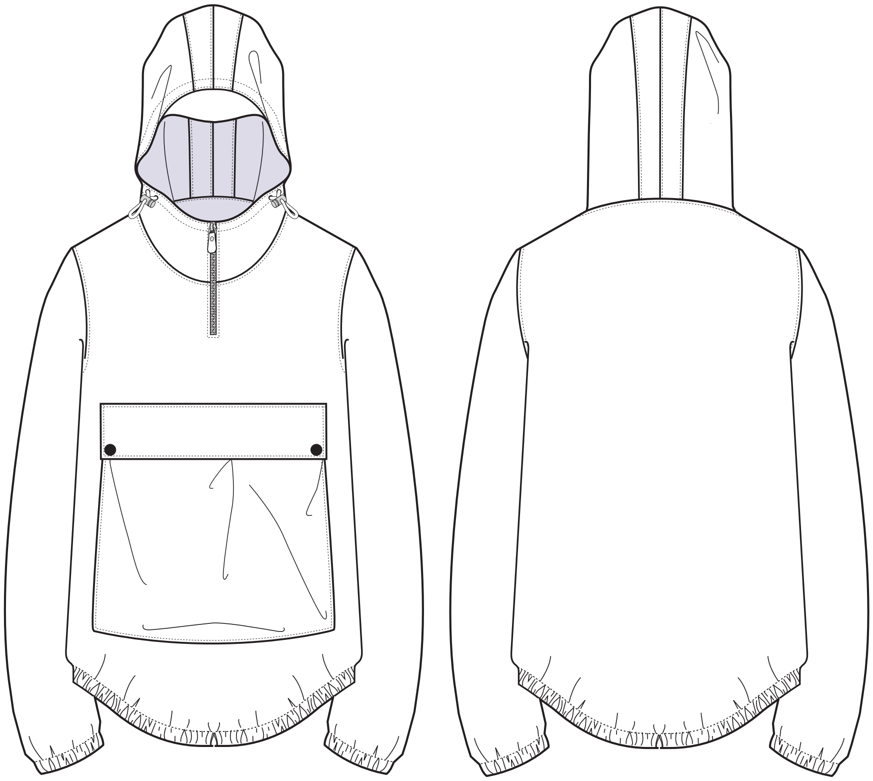
CHAPTER FIVE

THE PATTERNS: OUTERWEAR

PATTERN

ANORAK





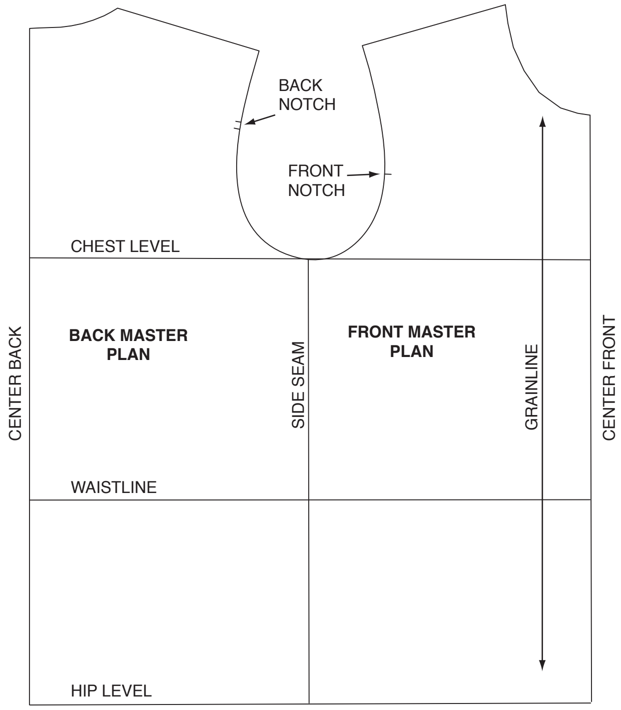
This pattern includes development of the following features:

- Adding volume to the front and back patterns
- Enlarging the neckline
- Creating a shaped and elasticated hemline
- Creating a dropped shoulder with seam moved toward the front
- Developing a center front patch pocket with mitered corners, zipper opening, and flap
- Enlarging the sleeve cap
- Creating a sleeve with elasticated cuffs
- Developing a hood with separate front peak

STEP 1

DEVELOPING THE MASTER PLAN

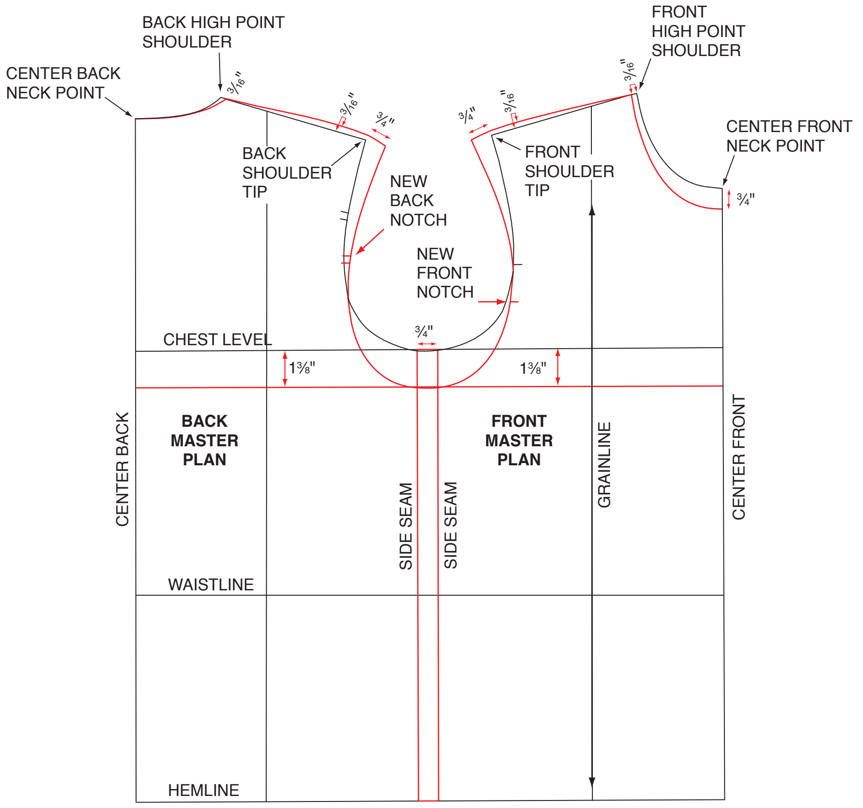
Start by selecting the basic men's upper body sloper, or by drafting the basic sloper according to the instructions on page 40. Cut a large piece of drafting paper slightly longer than the length of the jacket you want to develop and transfer the shape of the sloper and all marks, labels, and instructions, following the directions on page 48.


BACK NOTCH
FRONT NOTCH
CHEST LEVEL
BACK MASTER PLAN
FRONT MASTER PLAN
CENTER BACK
SIDE SEAM
GRAINLINE
CENTER FRONT
WAISTLINE
HIP LEVEL

STEP 2

DEVELOPING THE ENLARGED NECK, DROPPED SHOULDER, AND LOWERED ARM, AND ADDING VOLUME TO THE SIDE SEAM

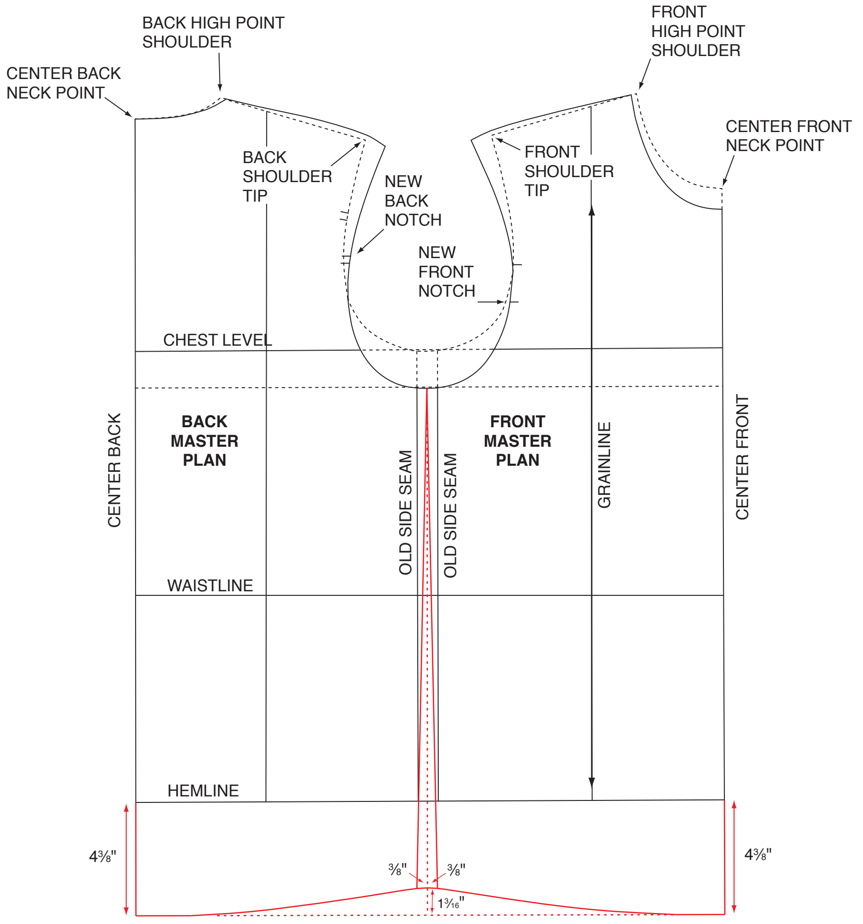
- From the center front neck point measure down ¾in and from the front high point shoulder measure in 3⁄16in; measure in 3⁄16in from the back high point shoulder. Using the basic upper body sloper as a template draw in the new front and back necklines.
- From the front and back shoulder tips measure up 3⁄16in and out ¾in over the armhole and find and mark the new shoulder tips.
- Open up the side seam by adding in ¾in between the front and back body panels and repositioning.
- From the chest level square down 1⅜in on each side and, starting from the underarm / side seam corner, redraw the new armhole shape using the basic upper body slopers as a template up to the new shoulder tips. Draw in the new notch positions.


BACK HIGH POINT SHOULDER
CENTER BACK NECK POINT
3⁄16"
3⁄16"
¾"
¾"
3⁄16"
3⁄16"
FRONT HIGH POINT SHOULDER
CENTER FRONT NECK POINT
¾"
BACK SHOULDER TIP
NEW BACK NOTCH
FRONT SHOULDER TIP
NEW FRONT NOTCH
CHEST LEVEL
¾"
1⅜"
1⅜"
CENTER BACK
BACK MASTER PLAN
SIDE SEAM
SIDE SEAM
FRONT MASTER PLAN
GRAINLINE
CENTER FRONT
WAISTLINE
HEMLINE

STEP 3

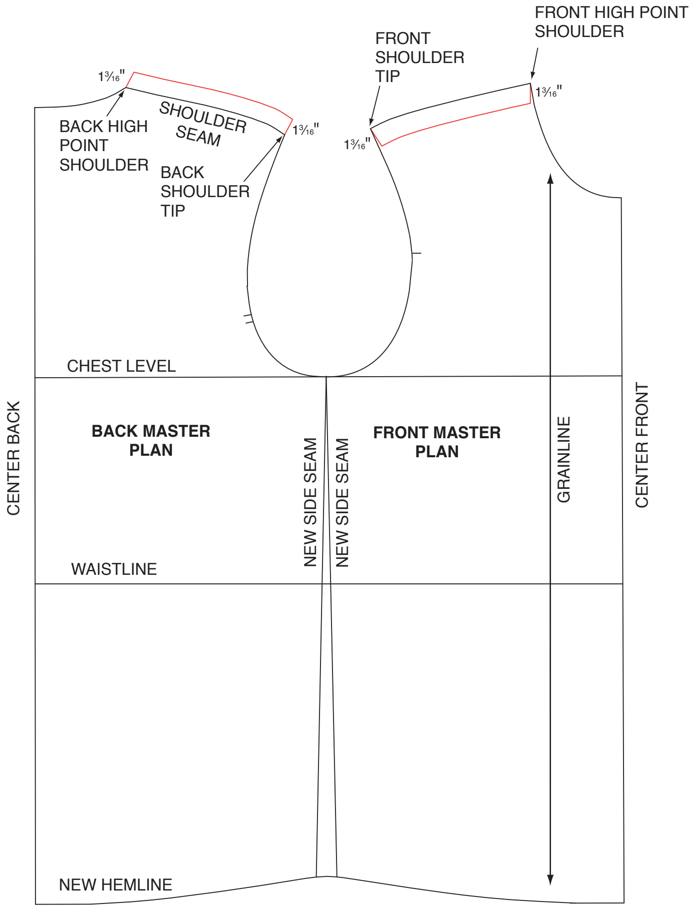
EXTENDING AND SHAPING THE HEM AND SHAPING THE SIDE SEAM

- Extend the center front, side seam, and center back lines down 4⅜in from the hemline and square across to create a new hemline.
- To shape the hemline measure 1 3⁄16in up the side seam and blend back toward the center front and center back using a French curve.
- To develop the side seam shaping, at the hemline measure ⅜in into the front body and connect this point back to the new underarm / side seam corner with a straight line. Repeat these steps for the back by measuring ⅜in into the back body.


BACK HIGH POINT SHOULDER
CENTER BACK NECK POINT
FRONT HIGH POINT SHOULDER
CENTER FRONT NECK POINT
BACK SHOULDER TIP
NEW BACK NOTCH
FRONT SHOULDER TIP
NEW FRONT NOTCH
CHEST LEVEL
CENTER BACK
BACK MASTER PLAN
OLD SIDE SEAM
OLD SIDE SEAM
FRONT MASTER PLAN
GRAINLINE
CENTER FRONT
WAISTLINE
HEMLINE
4⅜"
⅜"
⅜"
1 3⁄16"
4⅜"

STEP 4
REPOSITIONING THE SHOULDER SEAM

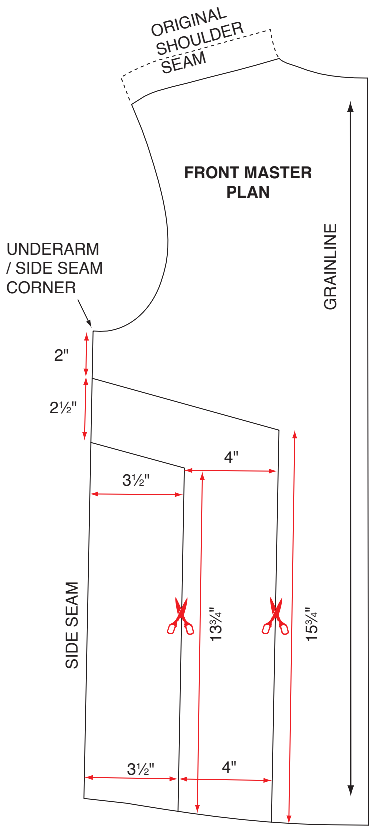
- From the front high point shoulder measure $1\frac{3}{16}$in down the front neck curve and $1\frac{3}{16}$in down the armhole from the front shoulder tip and draw in the new shoulder seam. Cut and remove this shape from the front body panel.
- To add the shape onto the back body panel, from the back high point shoulder and the back shoulder tip measure up $1\frac{3}{16}$in and connect these points with a straight line from the back high point shoulder, curving it down slightly to the new shoulder tip.



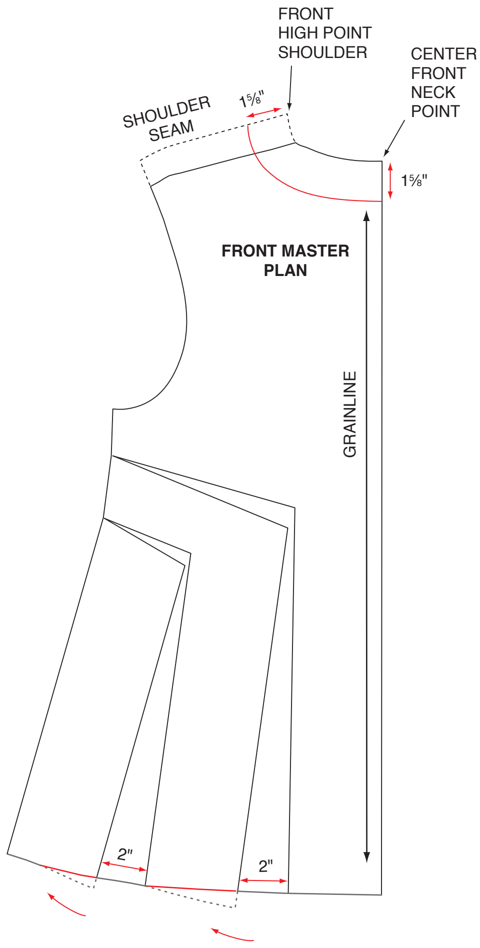
FRONT HIGH POINT SHOULDER
FRONT SHOULDER TIP
1 3/16"
SHOULDER SEAM
1 3/16"
1 3/16"
1 3/16"
BACK HIGH POINT SHOULDER
BACK SHOULDER TIP
CHEST LEVEL
BACK MASTER PLAN
FRONT MASTER PLAN
CENTER BACK
NEW SIDE SEAM
NEW SIDE SEAM
GRAINLINE
CENTER FRONT
WAISTLINE
NEW HEMLINE

STEP 5
ADDING VOLUME TO THE FRONT

- Trace off the front body panel onto a new piece of paper. Volume will be added by cutting and spreading the pattern pieces open to redefine the shape.
- From the side seam square in $3\frac{1}{2}$in at two points and from the hemline draw a $13\frac{3}{4}$in vertical line passing through the points. Continue to measure in a further 4in and from the hem draw a $15\frac{3}{4}$in vertical line.
- Measure 2in down the side seam from the underarm / side seam corner and from here draw an angled line to the top of the $15\frac{3}{4}$in vertical line.
- Measure down a further $2\frac{1}{2}$in and connect this point with an angled line to the top of the $13\frac{3}{4}$in vertical line.
- From the hemline cut up each line and out to the side seam, leaving the shape connected by a fraction of an inch.
- Starting from the center front open each panel out 2in at the hem.
- Redraw the new hemline with a gradual curve back toward the center front, removing the overhanging panel corners.



ORIGINAL SHOULDER SEAM
FRONT MASTER PLAN
UNDERARM / SIDE SEAM CORNER
GRAINLINE
2"
2½"
4"
3½"
SIDE SEAM
13¾"
15¾"
3½"
4"

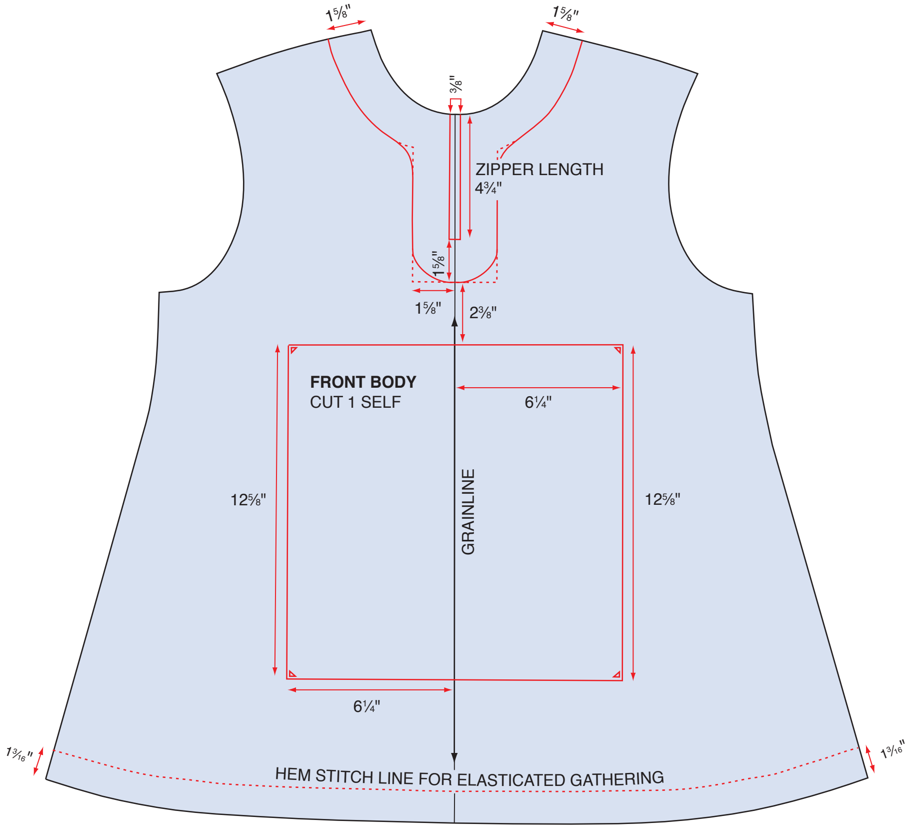


FRONT HIGH POINT SHOULDER
CENTER FRONT NECK POINT
SHOULDER SEAM
1⅝"
1⅝"
FRONT MASTER PLAN
GRAINLINE
2"
2"

STEP 6

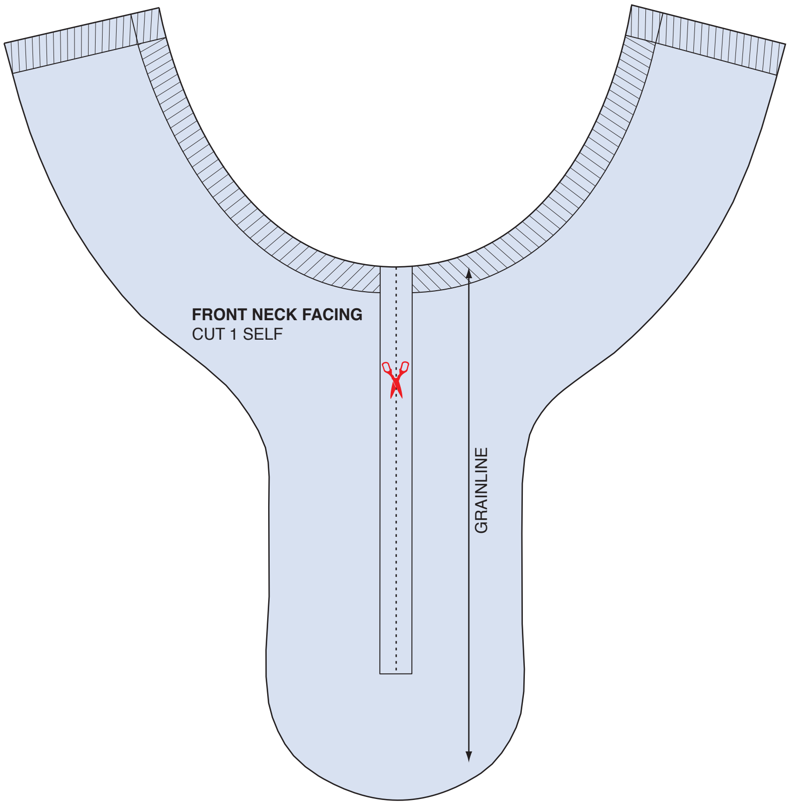
FRONT PATTERN AND DEVELOPING THE FRONT NECK FACING, PATCH POCKET BAG, AND HEM WIDTH

- Trace off the front onto a new piece of paper and, following the instructions on page 50, create the full pattern shape. You will now develop the front neck facing and patch pocket on top of this pattern.
- The front neck facing will strengthen the zipper insertion. From the front high point shoulders measure 1⅝in down each shoulder seam and draw a curved line down toward the center front following the shape of the neckline.
- From the center front neck point measure out 3/16in on both sides along the neckline. From these points create a rectangle ⅜in wide by 4¾in long; this will be cut later to allow the zipper to be sewn in.
- From the bottom of the rectangle measure down 1⅝in along the center front and then square out 1⅝in right and left; this is the width of your facing. Connect these points back up to meet the curved lines drawn previously and round off all the corners.
- To develop the pocket bag measure 2⅜in down from the bottom of the facing shape. From this point square out 6¼in left and right. Measure 12⅝in down both sides to create a square.
- Measure 1 3/16in up along the length of the hemline to create a channel to take the elastic for a gathered finish.



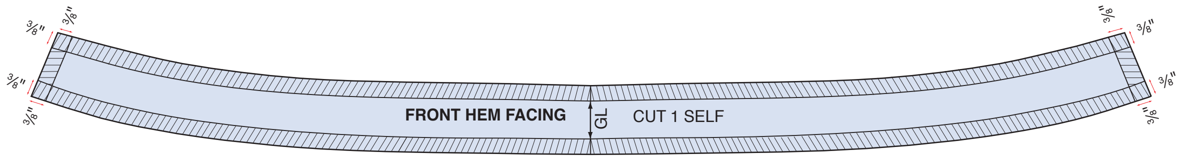
STEP 7
FRONT NECK FACING PATTERN

- Following the instructions on page 50, trace off the neck facing pattern, adding a 3⁄8in seam allowance on the neckline and shoulders only.


FRONT NECK FACING
CUT 1 SELF
GRAINLINE

STEP 8
FRONT HEM FACING PATTERN

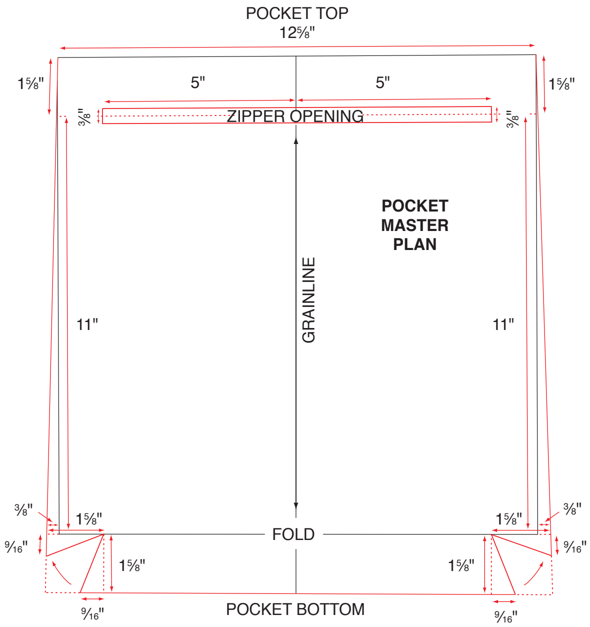
- Following the instructions on page 50, trace off the hem facing pattern, adding a 3⁄8in seam allowance on all sides.


3⁄8"
3⁄8"
3⁄8"
3⁄8"
FRONT HEM FACING
GL
CUT 1 SELF
3⁄8"
3⁄8"
3⁄8"
3⁄8"

STEP 9

DEVELOPING THE POCKET BAG WITH MITERED CORNERS AND ZIPPER OPENING

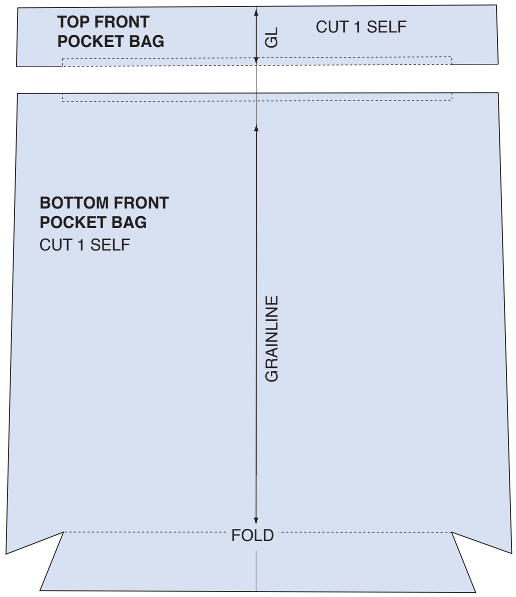
- Trace off the 12⅝in by 12⅝in square from the front body, indicating the center grainline.
- The zipper opening will be inserted along a panel seam, which is created by measuring down 1⅝in from each top corner and squaring across. To create the zipper opening draw a rectangle 10in by ⅜in, centered on the panel seam.
- To develop the mitered corners that will give the pocket a bellows effect, square out ⅜in from the bottom corners and connect to the top corners to give a new angled side. From the new angled side measure in 1⅝in along the bottom line and mark, and from this point square down 1⅝in and mark. Repeat on the other side. Join the lower points on each side with a straight line to create a new pocket bottom line. Name the old bottom line *fold*. Continue to measure 9/16in down the angled side and mark. Measure 9/16in out from the new pocket bottom line and mark. Join these two points back to the point you marked on the original pocket bottom line (now the fold line). Repeat on the other side.


POCKET TOP
12⅝"
1⅝"
5"
5"
1⅝"
⅜"
ZIPPER OPENING
⅜"
POCKET MASTER PLAN
GRAINLINE
11"
11"
⅜"
1⅝"
1⅝"
⅜"
9/16"
FOLD
9/16"
1⅝"
1⅝"
9/16"
POCKET BOTTOM
9/16"

STEP 10

BOTTOM AND TOP POCKET BAG PATTERNS

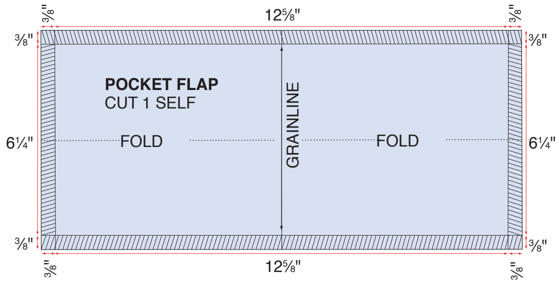
- Following the instructions on page 50, trace off the bottom pocket bag pattern.
- Following the instructions on page 50, trace off the top pocket bag pattern.


TOP FRONT POCKET BAG
GL
CUT 1 SELF
BOTTOM FRONT POCKET BAG
CUT 1 SELF
GRAINLINE
FOLD

STEP 11

POCKET FLAP PATTERN

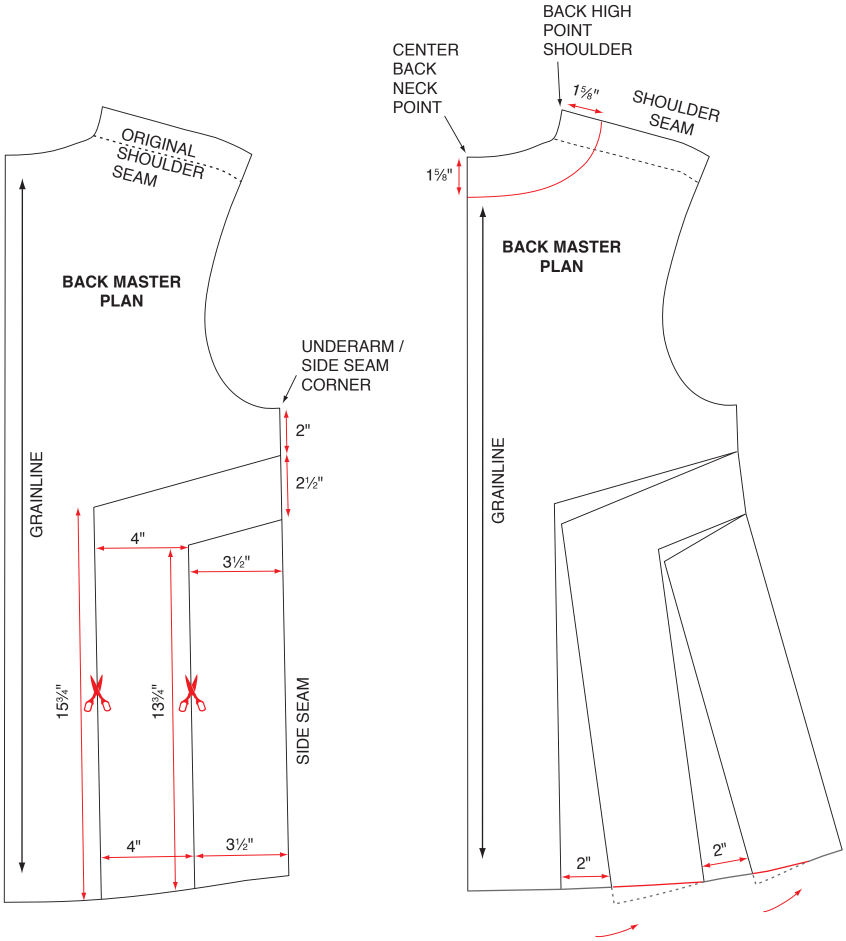
- On a separate piece of paper, draw a horizontal box 12⅝in long by 6¼in wide to create a rectangular-shaped pocket flap.
- Divide the box in half lengthways, draw a line across the center, and label it *fold*.
- Add a ⅜in seam allowance on all sides.


⅜"
12⅝"
⅜"
⅜"
⅜"
POCKET FLAP
CUT 1 SELF
6¼"
FOLD
GRAINLINE
FOLD
6¼"
⅜"
⅜"
⅜"
12⅝"
⅜"

STEP 12

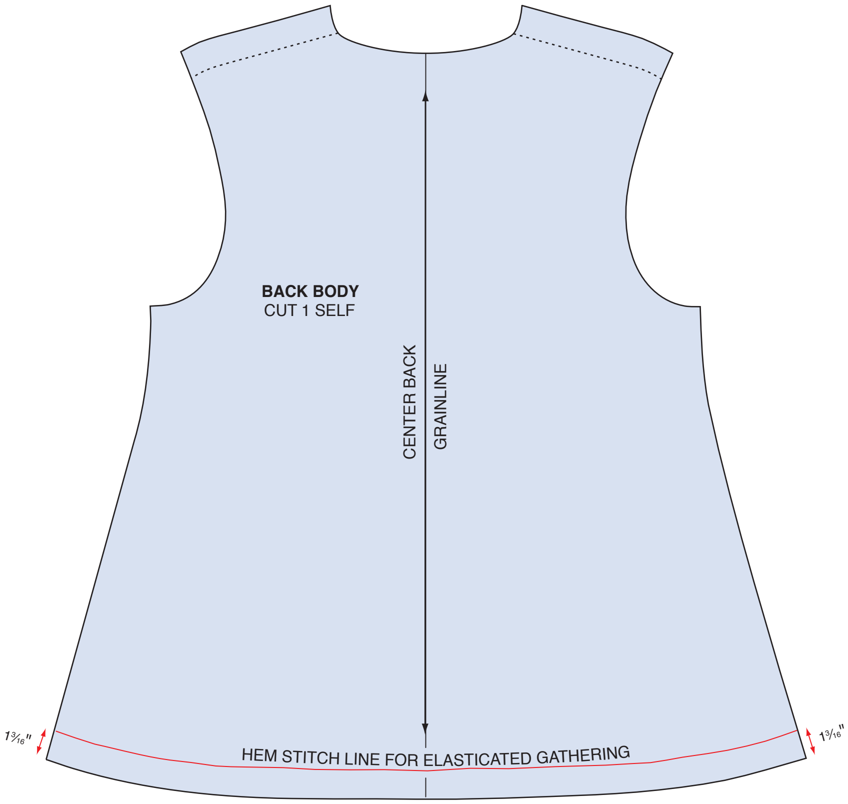
ADDING VOLUME TO THE BACK AND CREATING THE BACK NECK FACING

- Trace off the back body panel onto a new piece of paper. Volume will be added by cutting and spreading the pattern pieces open to redefine the shape.
- From the side seam square in 3½in at two points and from the hemline draw a 13¾in vertical line passing through the points. Continue to measure in a further 4in and from the hem draw a 15¾in vertical line.
- From the underarm / side seam corner measure 2in down the side seam and connect this point with an angled line to the top of the 15¾in vertical line.
- Measure down a further 2½in and connect this point with an angled line to the top of the 13¾in vertical line.
- From the hemline cut up each line and out to the side seam, leaving the shape connected by a fraction of an inch.
- Starting from the center back open each panel out 2in at the hem.
- Redraw the new hemline with a gradual curve back toward the center back, removing the panel corners that are overhanging.
- To create the back neck facing, measure 1⅝in down the shoulder seam from the back high point shoulder and mark, and 1⅝in down the center back from the center back neck point and mark. Join these points with a curved line following the shape of the neckline.


ORIGINAL SHOULDER SEAM
BACK MASTER PLAN
GRAINLINE
UNDERARM / SIDE SEAM CORNER
2"
2½"
4"
3½"
15¾"
13¾"
SIDE SEAM
4"
3½"
CENTER BACK NECK POINT
BACK HIGH POINT SHOULDER
1⅝"
SHOULDER SEAM
1⅝"
BACK MASTER PLAN
GRAINLINE
2"
2"

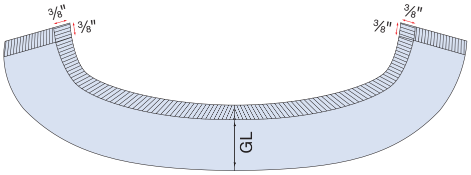
STEP 13
BACK PATTERN AND HEM FACING

- Trace off the back onto a separate piece of paper and, following the instructions on page 50, create the full pattern shape, adding a 3/8in seam allowance on the neckline and shoulders only.
- Measure 1 3/16in up along the length of the hemline to create a channel to take the elastic for a gathered finish.


BACK BODY
CUT 1 SELF
CENTER BACK
GRAINLINE
1 3/16"
1 3/16"
HEM STITCH LINE FOR ELASTICATED GATHERING

STEP 14
BACK NECK FACING PATTERN

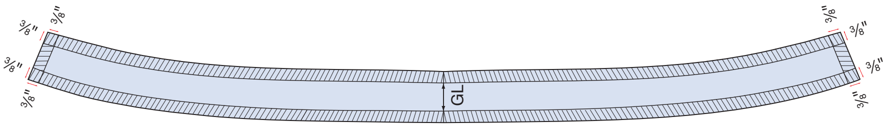
- Trace off the back neck facing onto a separate piece of paper and, following the instructions on page 50, create the full pattern shape, adding a 3/8in seam allowance on the neckline and shoulders only.


3/8"
3/8"
3/8"
3/8"
GL

BACK NECK FACING
CUT 1 SELF

STEP 15
BACK HEM FACING PATTERN

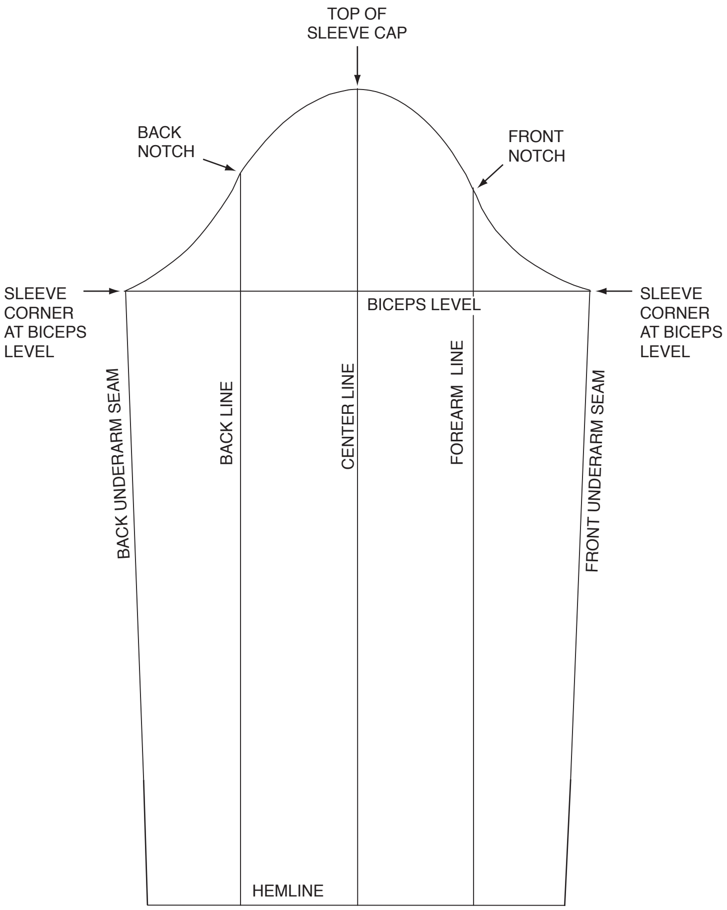
- Trace off the back hem facing onto a separate piece of paper and, following the instructions on page 50, create the full pattern shape, adding a 3/8in seam allowance on all sides.


3/8"
3/8"
3/8"
3/8"
3/8"
3/8"
3/8"
3/8"
GL

BACK HEM FACING
CUT 1 SELF

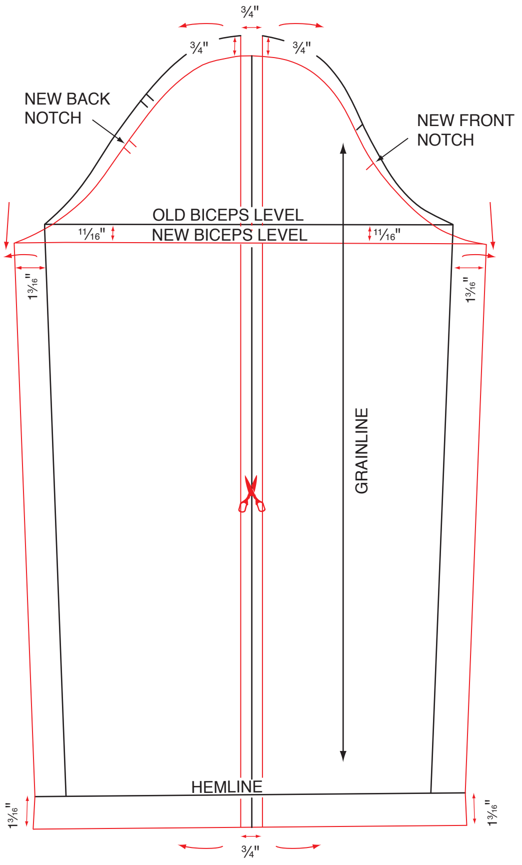
STEP 16
SLEEVE MASTER PLAN

Start this development by selecting the basic men's sleeve sloper, or by drafting the basic sleeve sloper according to the instructions on page 42. Cut a large piece of drafting paper slightly longer than the length of the shirt you want to develop and transfer the shape of the sloper and all marks, labels, and instructions, following the directions on page 48. For this design the sloper will be altered to reflect the dropped shoulder and lowered armhole.


TOP OF SLEEVE CAP
BACK NOTCH
FRONT NOTCH
SLEEVE CORNER AT BICEPS LEVEL
BICEPS LEVEL
SLEEVE CORNER AT BICEPS LEVEL
BACK UNDERARM SEAM
BACK LINE
CENTER LINE
FOREARM LINE
FRONT UNDERARM SEAM
HEMLINE

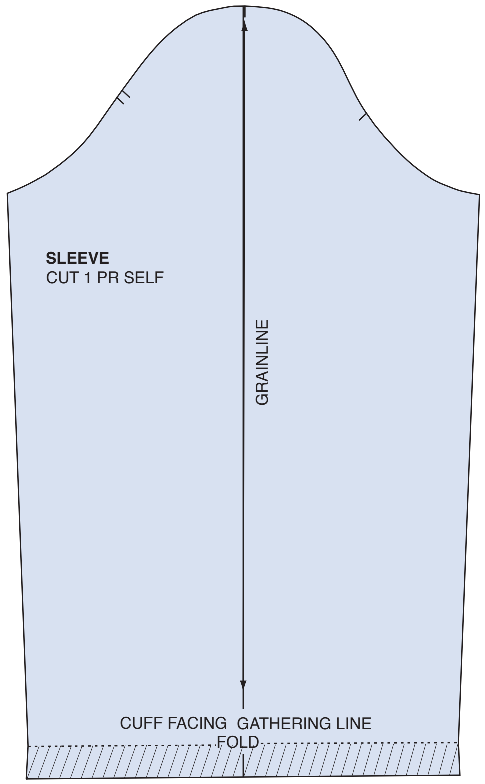
STEP 17
DEVELOPING THE SLEEVE MASTER PLAN

- Open up the master plan along the center line by 3⁄4in and intersecting the biceps level.
- From the top of the sleeve cap measure down 3⁄4in, the amount by which you dropped the shoulder on the upper body sloper.
- From the center of the biceps level square down 11⁄16in, half the amount by which you dropped the armhole. Redraw the new biceps level position, extending it by 13⁄16in each side.
- Using the basic sleeve sloper cap shape as a template, redraw the new sleeve cap, indicating the lowered notches.
- Extend the sleeve hemline by 13⁄16in to each side and draw in the new underarm seams by connecting the points back up to each end of the new biceps level.
- Extend the sleeve hemline by 13⁄16in to each side, recreating the opposite angle to the sleeve pitch, as the hem will be folded up.
- When adapting any sleeve, check the amount of ease and adjust if necessary before copying off the final pattern.


3⁄4"
3⁄4"
3⁄4"
NEW BACK NOTCH
NEW FRONT NOTCH
OLD BICEPS LEVEL
11⁄16"
NEW BICEPS LEVEL
11⁄16"
13⁄16"
13⁄16"
GRAINLINE
HEMLINE
13⁄16"
13⁄16"
3⁄4"

STEP 18
SLEEVE PATTERN

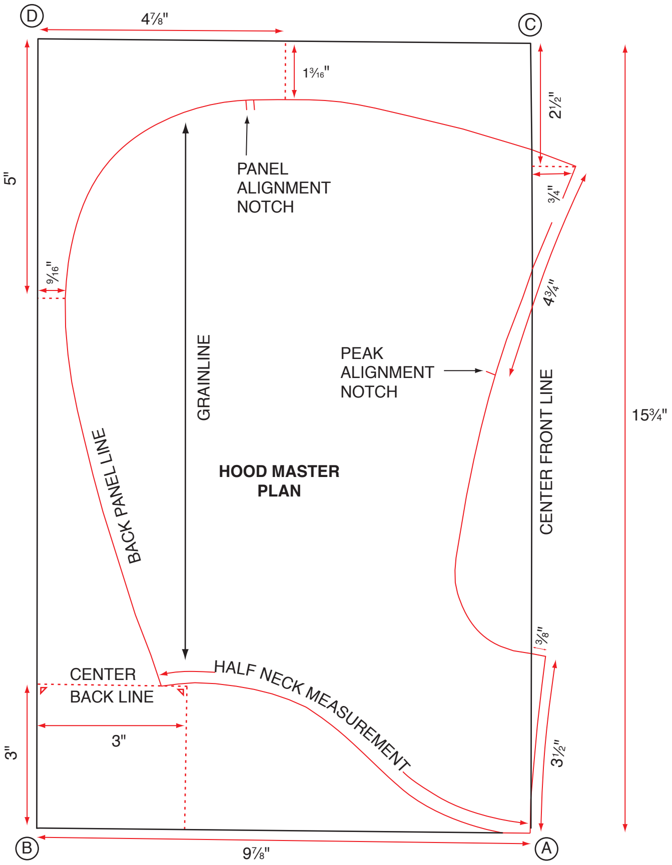
- Following the instructions on page 50, trace off the new sleeve pattern.



SLEEVE
CUT 1 PR SELF
GRAINLINE
CUFF FACING
GATHERING LINE
FOLD

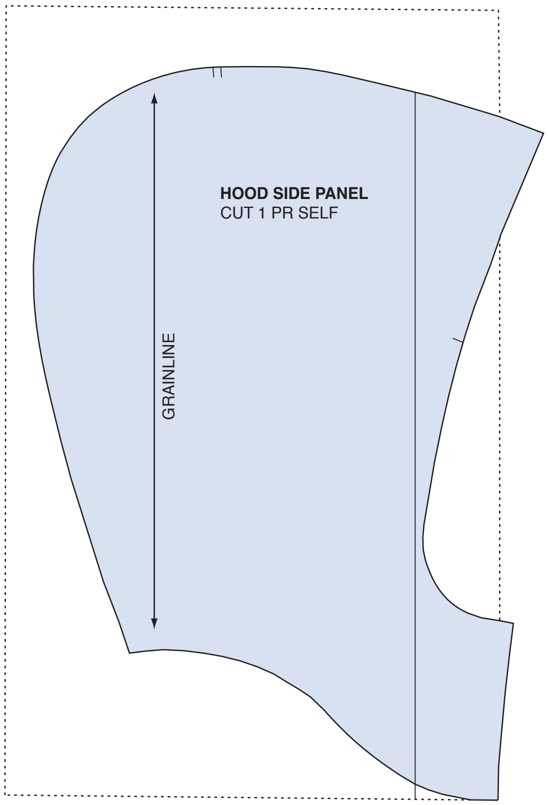
STEP 19
DEVELOPING THE HOOD

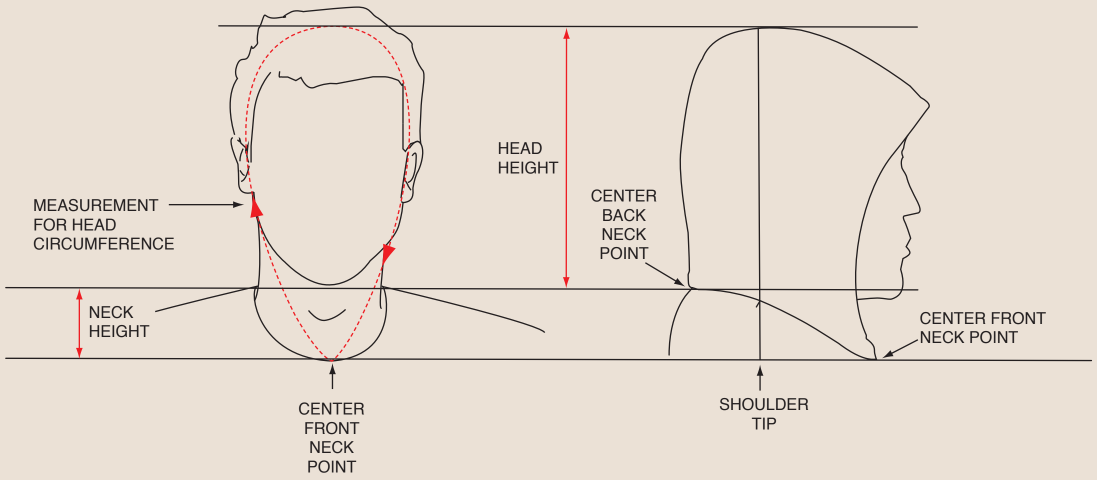
- Starting at the bottom right side of your paper mark point (A); square left 9⅞in (the length of the combined neck measurement) and mark point (B).
- From (A) square up 15¾in (half the head circumference) and mark point (C). Complete the rectangular box and mark point (D).
- From (B) square up 3in (the neck height) and then square in 3in and label as *center back line*.
- Taking half the front and back neck measurements added together (9⅞in) use a French curve to draw the neck shape from (A) up to a finishing point on the center back line.
- From (A) measure up 3½in and then out ⅜in and draw in a curved line.
- From (D) square down 5in and then across 9/16in and mark; and again from (D) square across 4⅞in and then down 1 3/16in and mark.
- From (C) square down 2½in and then out ¾in and mark.
- Use these points to draw in your hood shape (determined by the design, head size, neck opening, and usage).
- From the top of the hood opening, measure 4¾in down the front opening and draw in the peak alignment notch.


D
4⅞"
C
1 3/16"
2½"
5"
PANEL ALIGNMENT NOTCH
¾"
9/16"
4¾"
GRAINLINE
PEAK ALIGNMENT NOTCH
CENTER FRONT LINE
15¾"
BACK PANEL LINE
HOOD MASTER PLAN
⅜"
CENTER BACK LINE
HALF NECK MEASUREMENT
3"
3"
3½"
B
9⅞"
A

STEP 20
HOOD SIDE PANEL PATTERN

- Following the instructions on page 50, trace off the hood side panel pattern.

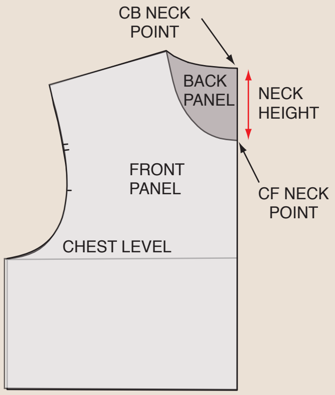

HOOD SIDE PANEL
CUT 1 PR SELF
GRAINLINE


MEASUREMENT FOR HEAD CIRCUMFERENCE
NECK HEIGHT
CENTER FRONT NECK POINT
HEAD HEIGHT
CENTER BACK NECK POINT
SHOULDER TIP
CENTER FRONT NECK POINT

Taking measurements for the hood

There are three measurements you need to create the pattern for the hood:

1. The front and back neck measurements, taken from the pattern—here they are 4$^{7}/_{8}$in and 4$^{7}/_{8}$in. If you are developing a hood with a center back panel remember to deduct the panel width from the final neck measurement as well as from the crown and front opening.
2. The front and back neck height, found by placing the front pattern on top of the back pattern and aligning them at the chest level, then measuring the distance between the front and back neck heights—here it is 3in.
3. The vertical circumference of the head, taken for the hood opening by measuring around the face of the model's head, starting and finishing at the center front neck point—here it is 31$^{1}/_{2}$in.

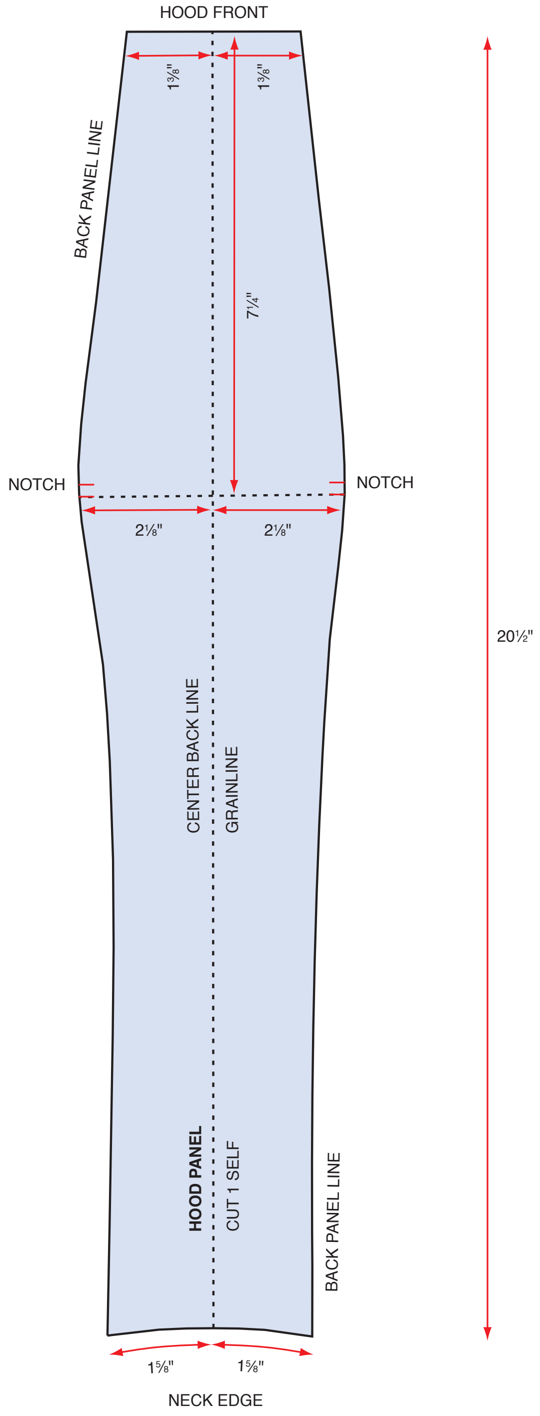

CB NECK POINT
BACK PANEL
NECK HEIGHT
FRONT PANEL
CF NECK POINT
CHEST LEVEL

STEP 21
DEVELOPING THE CENTER BACK HOOD PANEL

Measurements for the hood panel

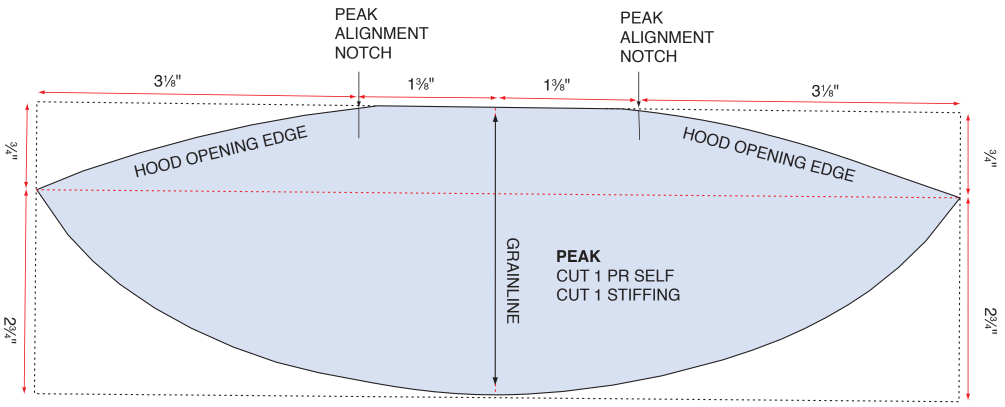
The center hood panel is 3⅛in wide at the neckline and 2¾in wide at the hood opening. To find the length, measure the back panel line on the hood master plan to create the center panel—here it is 20½in. The shape of the panel follows the shape of the head, so it is narrower at the back of the neck, wider at the crown, and then narrower again at the front of the head—following a similar principle to the way the segment of an orange is shaped.

- Draw a vertical grainline 20½in long. At the top square out 1⅜in on each side and label the line *hood front*. At the bottom measure out 1⅝in on each side and draw a slightly curved line reflecting the shape of the center back neck on the upper body sloper; label as *neck edge*.
- From the center of the hood front square down 7¼in and then square out 2⅛in to each side: this is the widest point. Notch for alignment.
- On both sides connect the hood front to the neck edge, passing through the central notch alignment line; this shape will become the final center back hood panel.


HOOD FRONT
1⅜"
1⅜"
BACK PANEL LINE
7¼"
NOTCH
NOTCH
2⅛"
2⅛"
20½"
CENTER BACK LINE
GRAINLINE
HOOD PANEL
CUT 1 SELF
BACK PANEL LINE
1⅝"
1⅝"
NECK EDGE

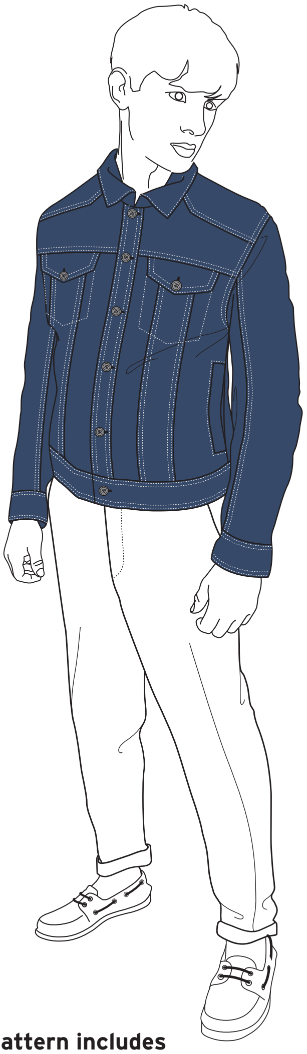
STEP 22
DEVELOPING THE HOOD PEAK PATTERN

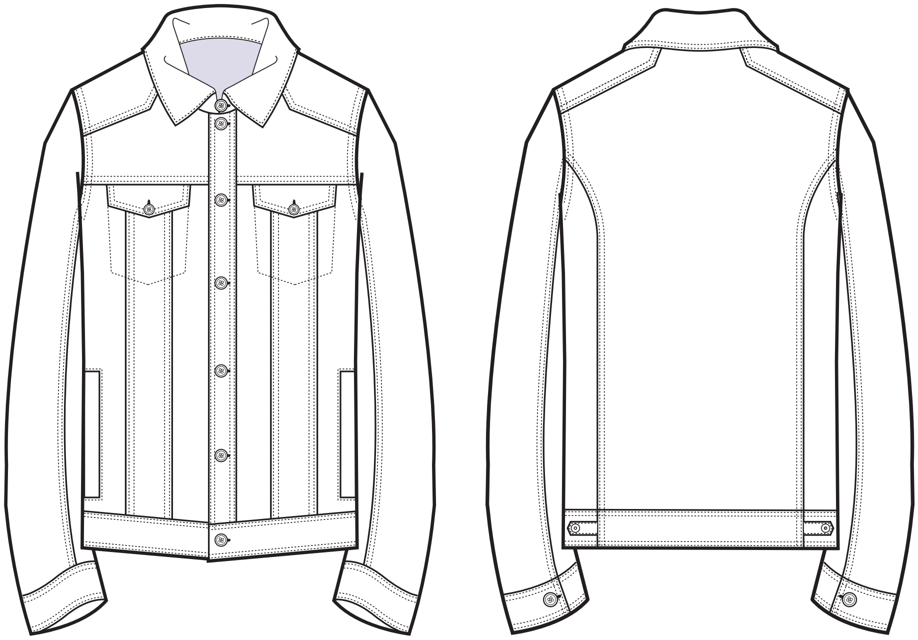
- Start by drawing a rectangular box 3½in wide by 9in long. Divide in half widthways at 4½in.
- From this center point on one side of the rectangle measure out 1⅜in and mark; on the same side of the rectangle, measure ¾in down along its width and mark. Join these points with a curved line.
- Repeat for the other half of the rectangle.
- Draw the peak curve by connecting the left and right ¾in marks with a curved line passing through the halfway point on the lower side of the rectangle.


PEAK
ALIGNMENT
NOTCH
PEAK
ALIGNMENT
NOTCH
3⅛"
1⅜"
1⅜"
3⅛"
¾"
¾"
HOOD OPENING EDGE
HOOD OPENING EDGE
GRAINLINE
2¾"
2¾"
PEAK
CUT 1 PR SELF
CUT 1 STIFFING

PATTERN

FITTED DENIM JACKET





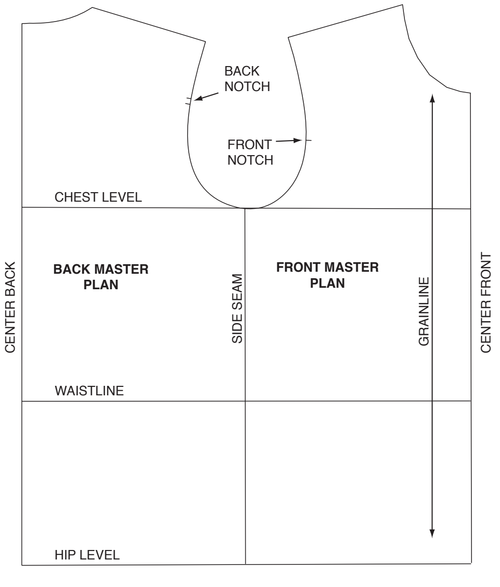
This pattern includes development of the following features:

Creating front and side back panels
Creating a sewn-on front placket
Reducing the length of the body
Creating a front yoke and combined front and back shoulder panel
Developing side welted pockets
Developing a front breast envelope pocket
Developing a shaped convertible collar with hidden stand
Creating a waistband with tabs
Developing a casual two-piece sleeve with two-piece cuff

STEP 1

DEVELOPING THE MASTER PLAN

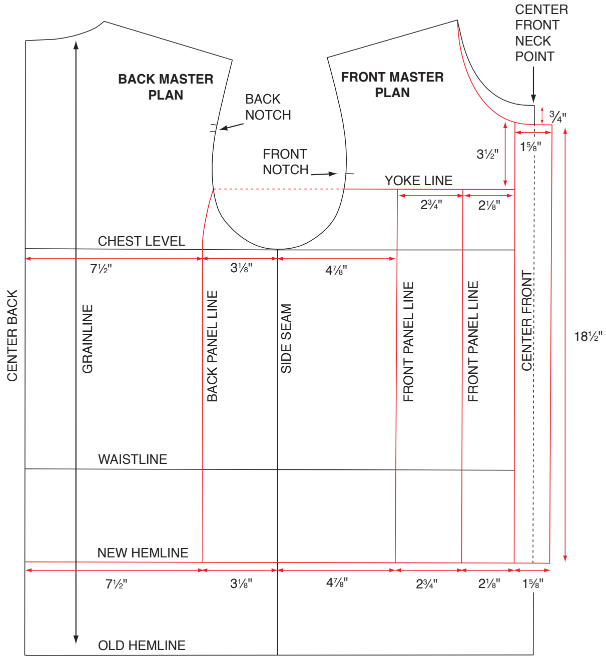
Start by selecting the basic men's upper body sloper, or by drafting the basic sloper according to the instructions on page 40. Cut a large piece of drafting paper slightly longer than the length of the jacket you want to develop and transfer the shape of the sloper and all marks, labels, and instructions, following the directions on page 48.


BACK NOTCH
FRONT NOTCH
CHEST LEVEL
CENTER BACK
BACK MASTER PLAN
SIDE SEAM
FRONT MASTER PLAN
GRAINLINE
CENTER FRONT
WAISTLINE
HIP LEVEL

STEP 2

DEVELOPING THE ENLARGED NECK, REDUCED BODY LENGTH, FRONT PLACKET, AND BODY PANELS

- From the center front neck point measure down ¾in, and draw in the new neckline using the basic upper body sloper as a template.
- From the new center front neck point measure down 18½in, and from this point square across to the center back to reduce the body length.
- From the new center front neck point measure back ¾in along the new neckline and mark, and measure out ¾in and mark. Repeat this at the new hemline and connect these points with straight lines to create a rectangle. This is the 1⅝in-wide placket.
- To create the three front panel shapes first create the front yoke. From the front neckline measure 3½in down the side of the placket and from this point square across to the back armhole and make a mark.
- From the placket measure 2⅛in along the yoke line you have just drawn and from this point square down to meet the new hemline. Continue to measure a further 2¾in along the yoke line and square down to the hemline again. These are the three front panels.
- To create the back panel measure 7½in from the center back along the hemline and mark; repeat at the chest level. Draw a vertical line through these points, at the chest level curving in toward the armhole mark made earlier.

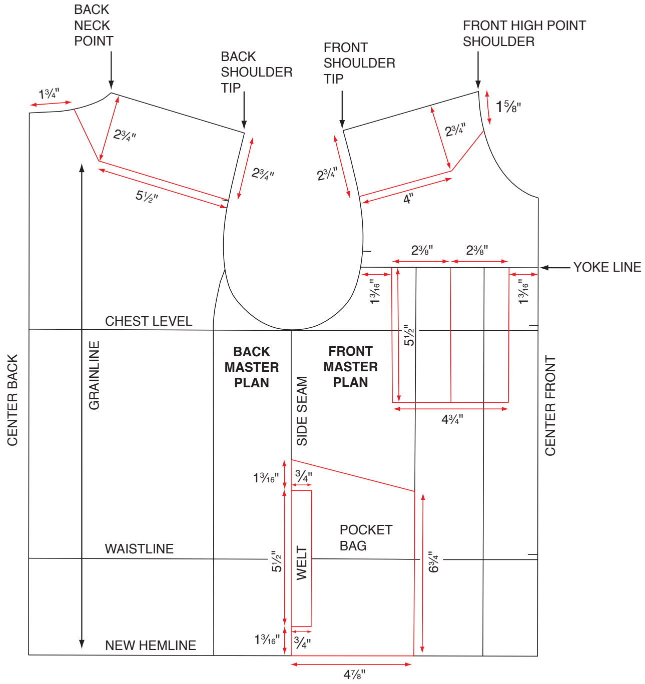


CENTER FRONT NECK POINT
BACK MASTER PLAN
BACK NOTCH
FRONT MASTER PLAN
FRONT NOTCH
¾"
1⅝"
3½"
YOKE LINE
2¾"
2⅛"
CHEST LEVEL
7½"
3⅛"
4⅞"
CENTER BACK
GRAINLINE
BACK PANEL LINE
SIDE SEAM
FRONT PANEL LINE
FRONT PANEL LINE
CENTER FRONT
18½"
WAISTLINE
NEW HEMLINE
7½"
3⅛"
4⅞"
2¾"
2⅛"
1⅝"
OLD HEMLINE

STEP 3

DEVELOPING THE SHOULDER PANEL, SIDE WELTED POCKET, AND BREAST ENVELOPE POCKET

- Measure 1⅝in down the front high point shoulder and make a mark. Measure 2¾in down the armhole from the front shoulder tip and square across 4in into the front. Join this line back up to the mark you made on the neckline.
- Measure 1¾in from the center back neck point along the neckline and make a mark. Measure 2¾in down the armhole from the back shoulder tip and square across 5½in into the back. Join this line back up to the mark you made on the neckline.
- From the center front measure in 1³⁄₁₆in along the yoke line to develop the breast envelope pocket. Continue to measure a further 4¾in for the pocket width, and divide it in half. At each end measure down 5½in and join across the bottom to create a rectangle.
- The side welted pocket is developed from the side seam into the front body. From the hemline square 1³⁄₁₆in up the side seam, then measure up a further 5½in and create the welt shape by drawing a 5½in by ¾in rectangle. Continue to measure up 1³⁄₁₆in along the side seam for the height of the pocket bag, and make a mark. To develop the width of the pocket bag measure 4⅞in along the hemline from the side seam and then square up 6¾in. Close the shape by joining this point to the mark on the side seam with an angled line.

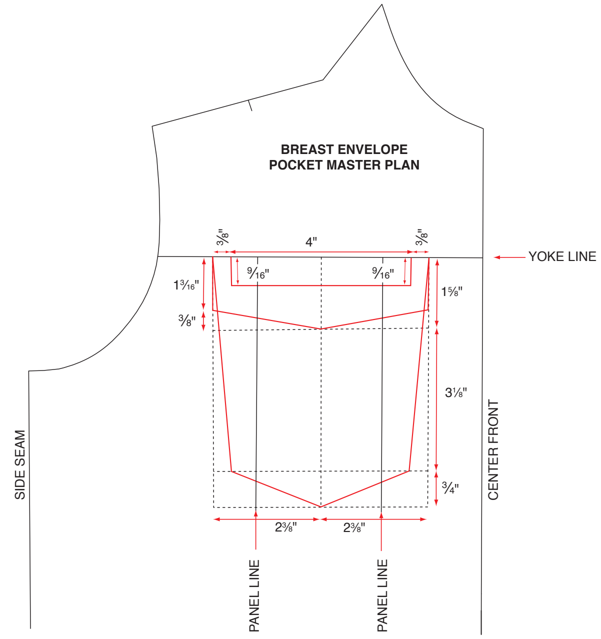


BACK NECK POINT
BACK SHOULDER TIP
FRONT SHOULDER TIP
FRONT HIGH POINT SHOULDER
1¾"
2¾"
5½"
2¾"
2¾"
2¾"
4"
1⅝"
2⅜"
2⅜"
YOKE LINE
1³⁄₁₆"
1³⁄₁₆"
5½"
CHEST LEVEL
BACK MASTER PLAN
FRONT MASTER PLAN
4¾"
CENTER BACK
GRAINLINE
SIDE SEAM
CENTER FRONT
1³⁄₁₆"
¾"
POCKET BAG
WAISTLINE
5½"
WELT
6¾"
NEW HEMLINE
1³⁄₁₆"
¾"
4⅞"

STEP 4

DEVELOPING THE BREAST ENVELOPE POCKET PARTS

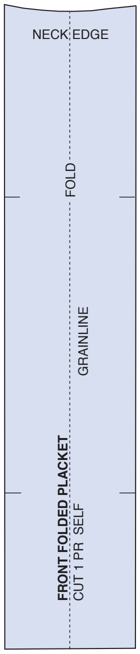
- All the pocket parts are developed on top of each other and then traced off separately. The envelope breast pocket is stitched behind the front panels along the yoke.
- First draw the rectangular opening. From the center of the top line of the pocket measure out 2in on each side. Measure down $\frac{9}{16}$in at each end and join to create a 4in by $\frac{9}{16}$in rectangle.
- Next draw the pocket flap, which will be stitched into the yoke seam and sit over the welt. From each end of the top pocket line square down $1\frac{3}{16}$in and mark; from the center of the top line square down $1\frac{5}{8}$in and mark. Join the points at the sides to the central mark to create the angled pitch of the flap point.
- To shape the angled envelope pocket bag square down $4\frac{3}{4}$in from the center of the top pocket line and from this point square out on each side to meet the side lines of the pocket rectangle. According to the shape desired, on each side draw an angled line up from a point along this line to the top corner. Finish by connecting these points down to the center line.


BREAST ENVELOPE
POCKET MASTER PLAN
YOKE LINE
$\frac{3}{8}$"
4"
$\frac{3}{8}$"
$\frac{9}{16}$"
$\frac{9}{16}$"
$1\frac{3}{16}$"
$\frac{3}{8}$"
$1\frac{5}{8}$"
$3\frac{1}{8}$"
$\frac{3}{4}$"
$2\frac{3}{8}$"
$2\frac{3}{8}$"
SIDE SEAM
CENTER FRONT
PANEL LINE
PANEL LINE

STEP 5

FRONT FOLDED PLACKET PATTERN

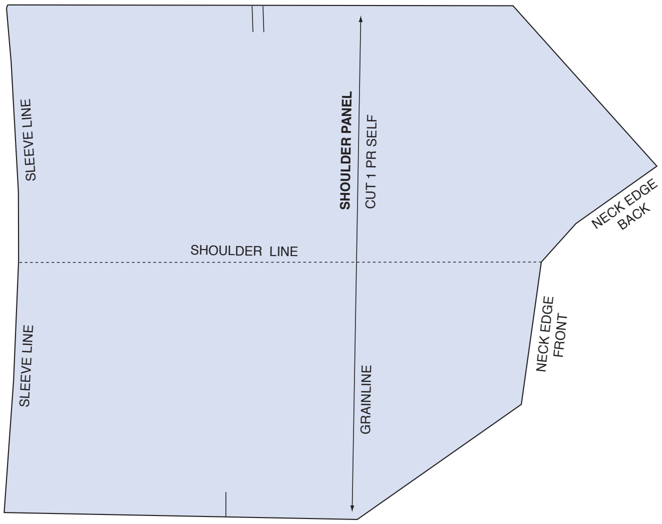
- Following the instructions on page 50, trace off the front placket shape developed in Step 2. Double over the rectangular shape and draw the fold line down the center.


NECK EDGE
FOLD
GRAINLINE
FRONT FOLDED PLACKET
CUT 1 PR SELF

STEP 6

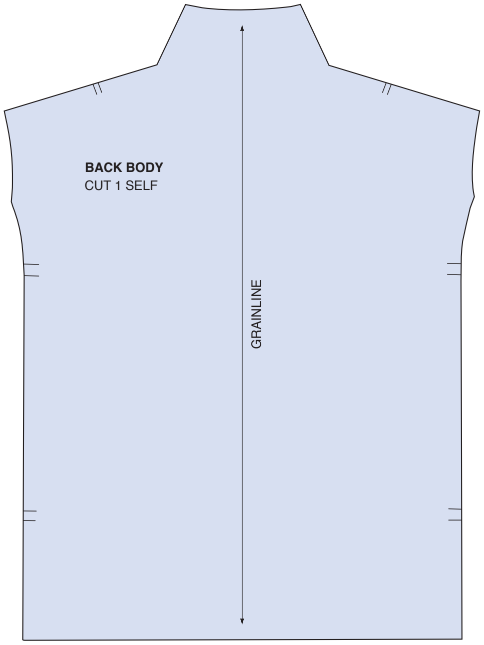
DEVELOPING THE FINAL COMBINED SHOULDER PANEL

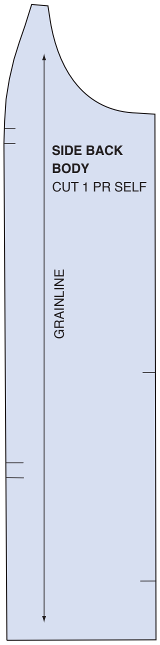
- In this design the shoulder panels are constructed by joining the front and back shoulder panels developed in Step 3. Following the instructions on page 50, trace off the front shoulder pattern from the front sloper, then align the front shoulder seam with the back shoulder seam and trace off the back shoulder pattern to create the final shoulder yoke pattern.


SLEEVE LINE
SHOULDER PANEL
CUT 1 PR SELF
NECK EDGE
BACK
SHOULDER LINE
SLEEVE LINE
NECK EDGE
FRONT
GRAINLINE

STEP 7
BACK AND SIDE BACK BODY PANEL PATTERNS

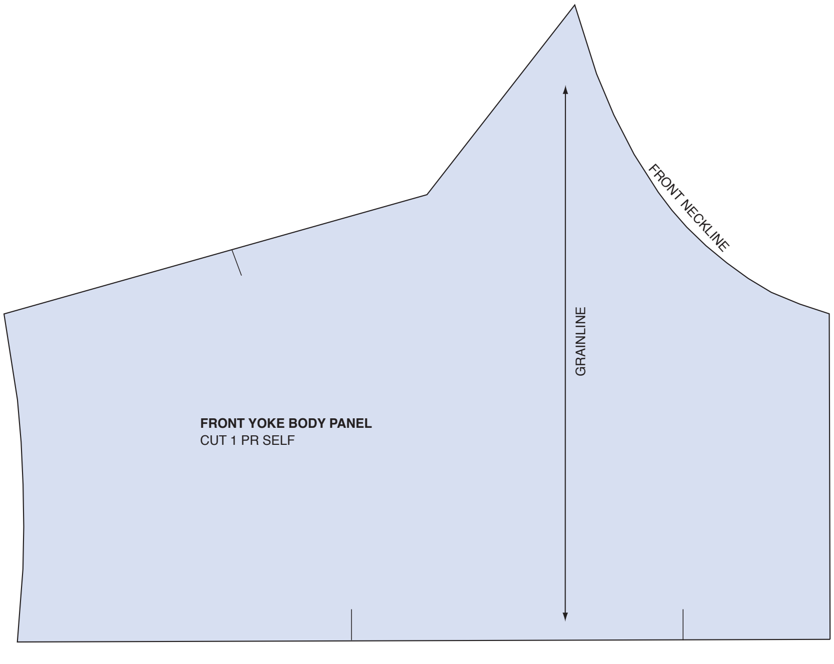
- Trace off the back body panel onto a new piece of paper and, following the instructions on page 50, create the full pattern shape.
- Following the instructions on page 50, trace off the side back body pattern.


BACK BODY
CUT 1 SELF
GRAINLINE


SIDE BACK BODY
CUT 1 PR SELF
GRAINLINE

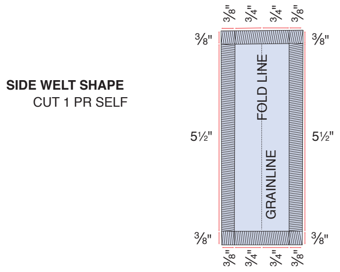
STEP 8
FRONT YOKE BODY PANEL PATTERN

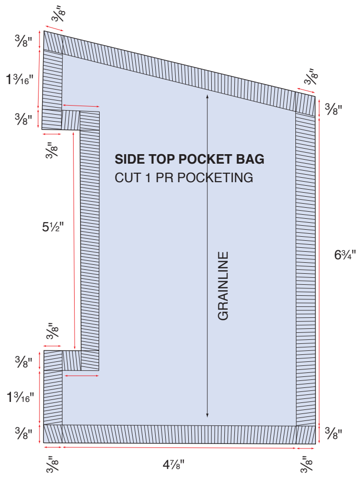
- Following the instructions on page 50, trace off the front yoke pattern developed in Step 3, adding alignment notches for the shoulder panel.

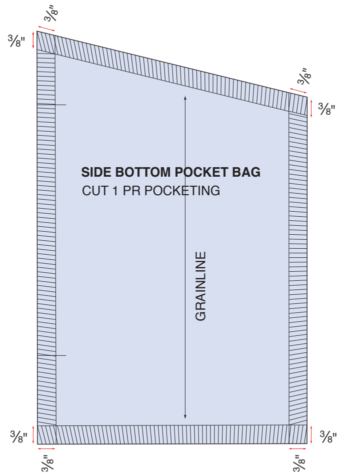

FRONT NECKLINE
GRAINLINE
FRONT YOKE BODY PANEL
CUT 1 PR SELF

STEP 9
SIDE WELTED POCKET COMPONENT PATTERNS

- Following the instructions on page 50, trace off all the side welted pocket parts developed in Step 3.
- Start with the welt shape, doubling the width to create a 5½in by 1½in rectangle. Mark the center fold line lengthways and add a ⅜in seam allowance to all sides to create the final pattern.
- The top pocket bag has the welt rectangle removed and the bottom pocket bag is a full shape. Add a ⅜in seam allowance to all sides to create the final patterns.

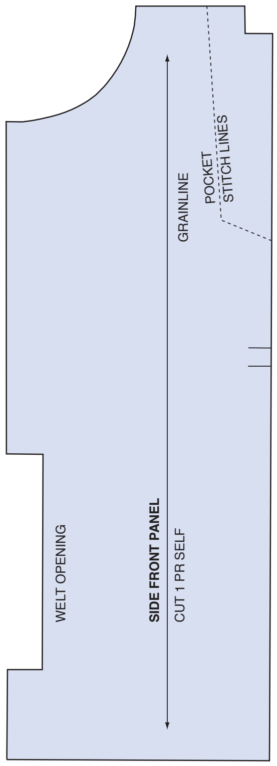

SIDE WELT SHAPE
CUT 1 PR SELF
⅜"
¾"
¾"
⅜"
⅜"
⅜"
FOLD LINE
GRAINLINE
5½"
5½"
⅜"
⅜"
⅜"
¾"
¾"
⅜"

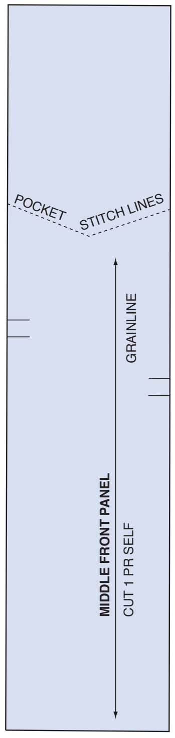

⅜"
⅜"
1³⁄₁₆"
⅜"
⅜"
⅜"
⅜"
SIDE TOP POCKET BAG
CUT 1 PR POCKETING
5½"
GRAINLINE
6¾"
⅜"
⅜"
1³⁄₁₆"
⅜"
⅜"
⅜"
4⅞"
⅜"

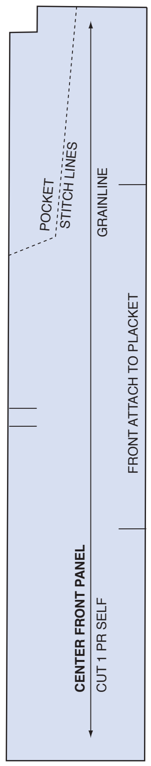

⅜"
⅜"
⅜"
⅜"
SIDE BOTTOM POCKET BAG
CUT 1 PR POCKETING
GRAINLINE
⅜"
⅜"
⅜"
⅜"

STEP 10
FRONT BODY PANEL PATTERNS

- Following the instructions on page 50, trace off all the front body panel patterns developed in Step 3: the center front panel, the middle front panel, and the side front panel.


GRAINLINE
POCKET
STITCH LINES
WELT OPENING
SIDE FRONT PANEL
CUT 1 PR SELF

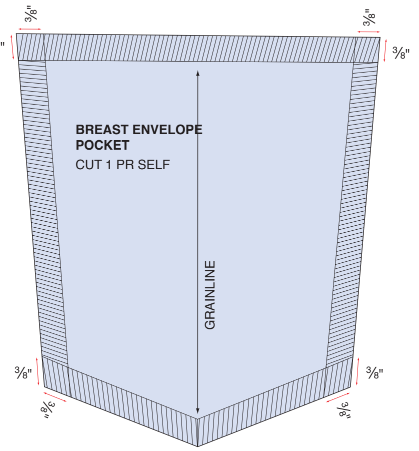

POCKET
STITCH LINES
GRAINLINE
MIDDLE FRONT PANEL
CUT 1 PR SELF

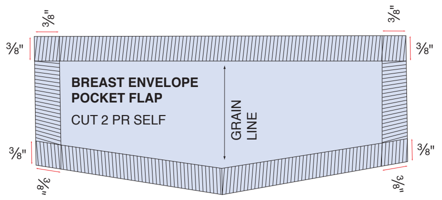

POCKET
STITCH LINES
GRAINLINE
FRONT ATTACH TO PLACKET
CENTER FRONT PANEL
CUT 1 PR SELF

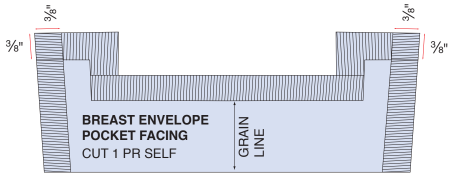
STEP 11

FRONT BREAST ENVELOPE POCKET COMPONENT PATTERNS

- Following the instructions on page 50, trace off the final envelope pocket parts developed in Step 4.
- Add a 3/8in seam allowance on all sides to create the final envelope pocket and flap patterns.
- Add a 3/8in seam allowance to the top and sides to create the final envelope pocket facing pattern.


3/8"
3/8"
3/8"
3/8"
BREAST ENVELOPE POCKET
CUT 1 PR SELF
GRAINLINE
3/8"
3/8"
3/8"
3/8"


3/8"
3/8"
3/8"
3/8"
BREAST ENVELOPE POCKET FLAP
CUT 2 PR SELF
GRAIN LINE
3/8"
3/8"
3/8"
3/8"


3/8"
3/8"
3/8"
3/8"
BREAST ENVELOPE POCKET FACING
CUT 1 PR SELF
GRAIN LINE

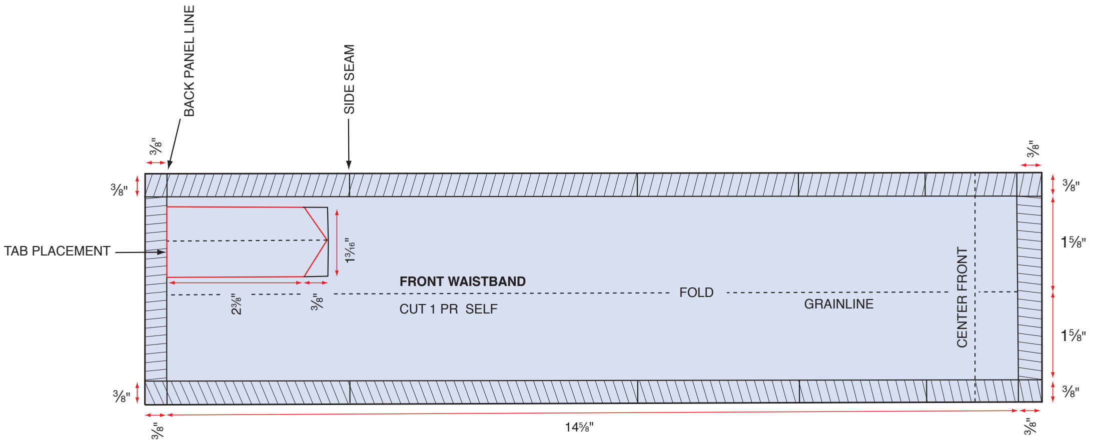
STEP 12

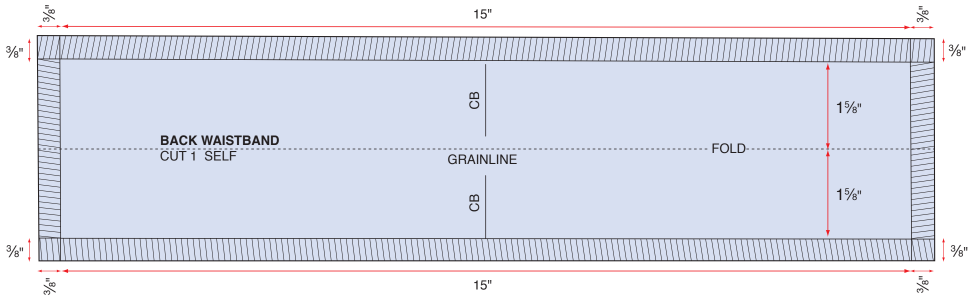
DEVELOPING THE FINAL WAISTBAND PARTS AND TAB

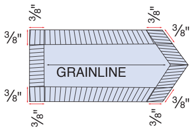
The waistband and tab

Take the measurements of the hemline for the front and back body panels from the master plan in Step 2, including the placket width. The denim jacket in this design has a split waistband $1\frac{5}{8}$in in width, with a tab inserted at the side back panel seam. The tab is developed on top of the front waistband for proportion and then removed for the final pattern.

- For the front waistband draw a rectangle $14\frac{5}{8}$in long by $3\frac{1}{4}$in wide ($1\frac{5}{8}$in doubled for the folded band). Indicate the panel lines with notches for alignment. Add a $\frac{3}{8}$in seam allowance on all sides to create the final pattern.
- For the back waistband draw a rectangle 15in long by $3\frac{1}{4}$in wide ($1\frac{5}{8}$in doubled for the folded band). Indicate the center back with an alignment notch at $7\frac{1}{2}$in (half the waistband length). Add a $\frac{3}{8}$in seam allowance on all sides to create the final pattern.
- For the waistband tab construct a rectangle $2\frac{3}{8}$in long by $1\frac{3}{16}$in wide. At one end measure back $\frac{3}{8}$in at the sides and join these points to a center point to create an angled point. Add a $\frac{3}{8}$in seam allowance on all sides to create the final pattern.


BACK PANEL LINE
SIDE SEAM
3/8"
3/8"
3/8"
TAB PLACEMENT
1 3/16"
FRONT WAISTBAND
CUT 1 PR SELF
FOLD
GRAINLINE
CENTER FRONT
2 3/8"
3/8"
1 5/8"
1 5/8"
3/8"
3/8"
3/8"
14 5/8"
3/8"


3/8"
15"
3/8"
3/8"
3/8"
CB
1 5/8"
BACK WAISTBAND
CUT 1 SELF
GRAINLINE
FOLD
CB
1 5/8"
3/8"
3/8"
3/8"
15"
3/8"


3/8"
3/8"
3/8"
3/8"
GRAINLINE
3/8"
3/8"
3/8"
3/8"

WAISTBAND TAB
CUT 2 PR SELF

STEP 13

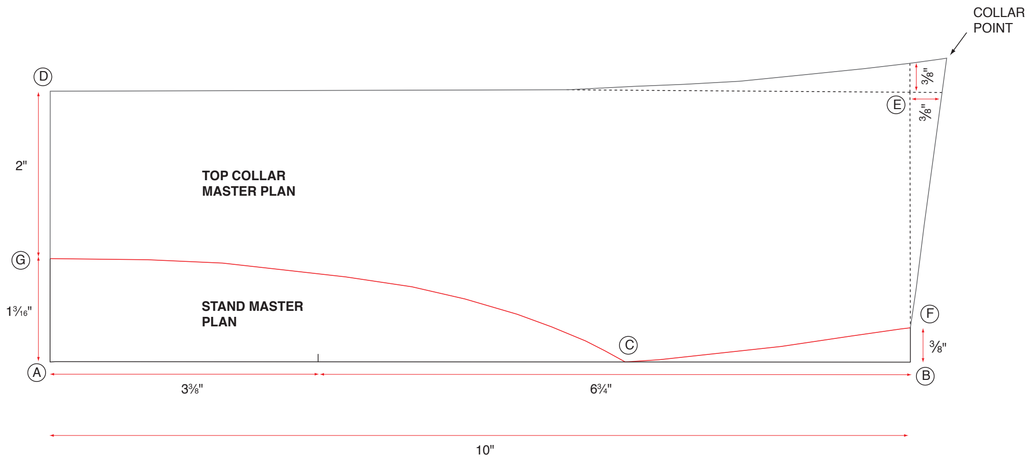
DEVELOPING THE SHAPED CONVERTIBLE COLLAR WITH HIDDEN STAND

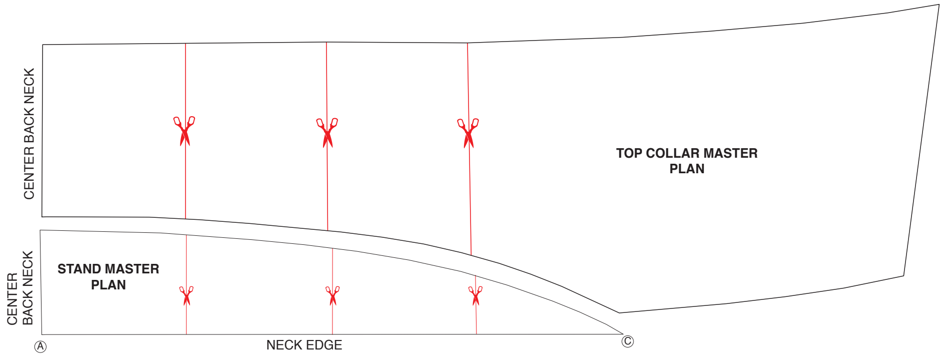
Measuring half the neck from the master plan

We will develop half the collar and stand before creating the full collar and stand. By taking measurements from the master plan, which is drawn in half, you will be measuring half of the neck measurement.

- On the master plan in Step 2 measure the length of the back neck, in this case 3⅜in, and the front neck from the shoulder tip down past the center front line to the point at which the placket finishes, in this case 6¾in.
- Add these two measurements together to give half the neck measurement, in this case 10in.

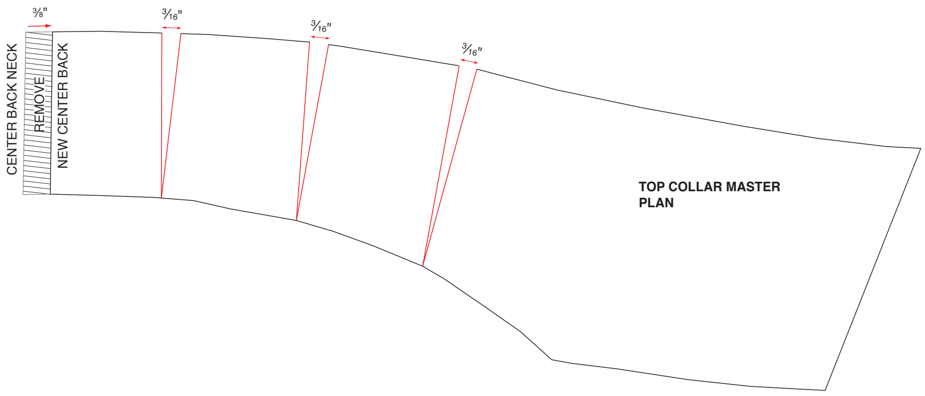
- Starting in the center of the piece of paper make a mark to indicate the bottom of the center back and label it (A). From (A) draw a 10in horizontal line and mark (B) at the end.
- From (A) measure out 3⅜in (the width of the half back neck) along the line and place a notch. Name it the *shoulder notch*.
- From (A) square up 1 3/16in and mark (G); continue up 2in and mark (D).
- From (D) square out 10in and mark (E) at the end.
- To give the collar shape, measure up ⅜in from (B) and mark (F). Join this point back with a slightly curved line measuring 3⅜in to (C).
- From (E) square up ⅜in and out ⅜in and from these points run a straight line back down to (F) and back along to blend in with the top line toward (D). Then continue each of these lines up from the ⅜in mark until they intersect. This is the collar point.
- Develop the hidden stand shape by drawing a curved line out from (G) down to meet (C).
- Trace the master plan onto a separate piece of paper and cut out the stand. Divide the stand length into four equal parts and draw vertical cut lines.
- Remove the top collar shape from the development by tracing onto a separate piece of paper. Trace the cut lines across from the stand.

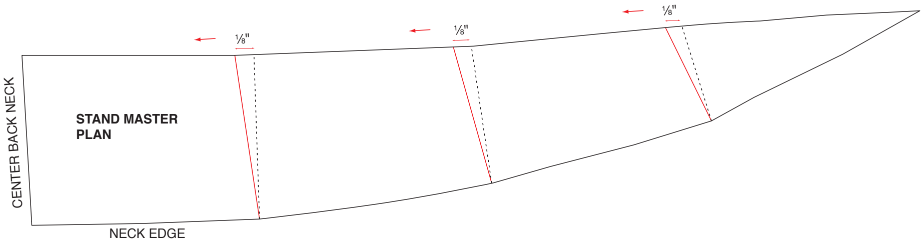




STEP 14
ADDING SHAPING TO THE CONVERTIBLE COLLAR AND STAND

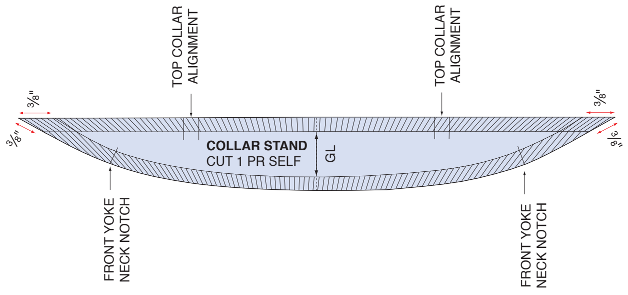
- Cut down the vertical lines on the top collar shape, leaving them attached at the bottom by a fraction of an inch. Starting from the center back open out each line by 3⁄16in, curving down the top collar. From the center back neck remove 3⁄8in, the width lost when closing up the stand.
- Cut down the vertical lines on the stand shape, leaving them attached at the bottom by a fraction of an inch. Overlap the sections along the top edge moving them by 1⁄8in toward the center back; this will bring up the neckline.


3⁄8"
3⁄16"
3⁄16"
3⁄16"
CENTER BACK NECK
REMOVE
NEW CENTER BACK
TOP COLLAR MASTER PLAN


1⁄8"
1⁄8"
1⁄8"
CENTER BACK NECK
STAND MASTER PLAN
NECK EDGE

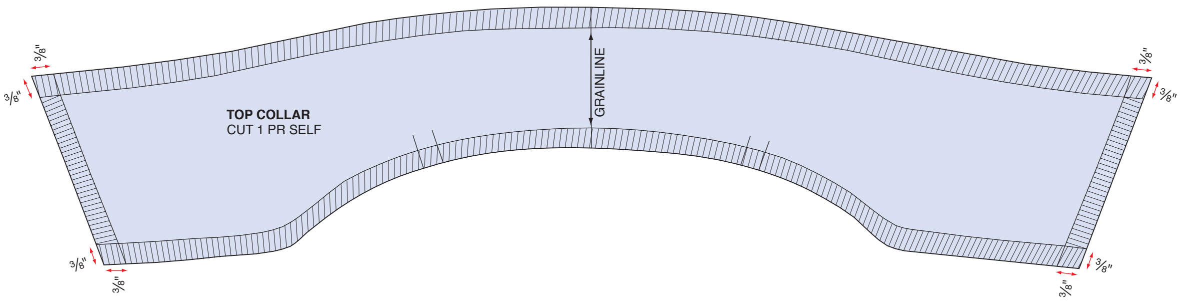
STEP 15
COLLAR STAND PATTERN

- Trace off the collar stand onto a new piece of paper and, following the instructions on page 50, create the full pattern shape, adding a 3⁄8in seam allowance on all sides.


TOP COLLAR ALIGNMENT
TOP COLLAR ALIGNMENT
3⁄8"
3⁄8"
3⁄8"
3⁄8"
COLLAR STAND
CUT 1 PR SELF
GL
FRONT YOKE NECK NOTCH
FRONT YOKE NECK NOTCH

STEP 16
TOP COLLAR PATTERN

- Trace off the top collar onto a new piece of paper and, following the instructions on page 50, create the full pattern shape, adding a ⅜in seam allowance on all sides.


⅜"
⅜"
TOP COLLAR
CUT 1 PR SELF
GRAINLINE
⅜"
⅜"
⅜"
⅜"
⅜"
⅜"

STEP 17
DEVELOPING THE SLEEVE MASTER PLAN

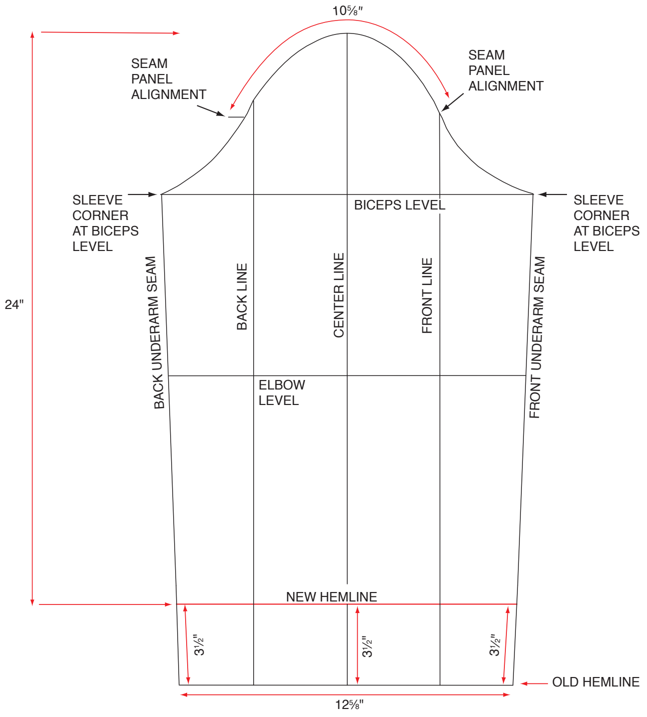
Start this development by selecting the basic men's sleeve sloper, or by drafting the basic sleeve sloper according to the instructions on page 42. Cut a large piece of drafting paper slightly longer than the length of the sleeve you want to develop and transfer the shape of the sloper and all marks, labels, and instructions, following the directions on page 48. The design illustrated has a two-piece sleeve.

Casual two-piece sleeve

The two-piece sleeve shown here is for a casual jacket that retains the sleeve cap shape of the basic sleeve sloper, unlike the tailored two-piece sleeve that has a padded sleeve cap. The starting point is the basic sleeve sloper from which two panels—the top sleeve and undersleeve—are created.

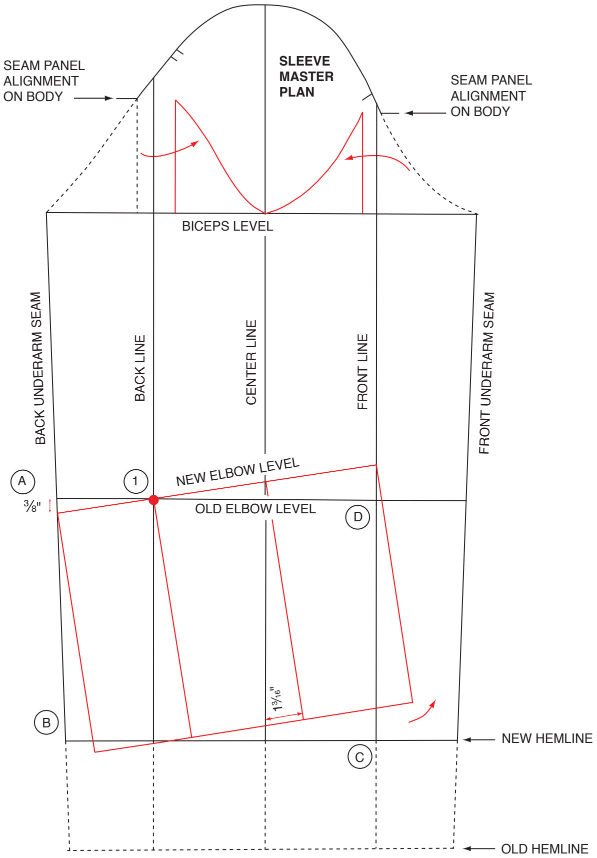
For this two-piece sleeve we are going to separate the under- and top sleeve panels so that the seams align with the points at which the side back and front yoke seams meet the armhole.

- Shorten the sleeve to allow for the addition of the cuff. From the sleeve hemline measure up 3½in on each side and square across to create the new hemline.
- To find the position at which to separate the top sleeve and undersleeve panels, measure the armhole on the front master plan created in Step 2 from the front shoulder tip to the yoke line and on the back master plan from the back shoulder tip to the back panel line. In this case the combined yoke measurement from the front yoke line to the back panel line is 10⅝in and the remainder of the armhole measures 9½in. Transfer these measurements to the sleeve by measuring down the front and back armhole of the sleeve from the shoulder tip and marking the seam panel alignment notches.


10⅝"
SEAM PANEL ALIGNMENT
SEAM PANEL ALIGNMENT
SLEEVE CORNER AT BICEPS LEVEL
BICEPS LEVEL
SLEEVE CORNER AT BICEPS LEVEL
24"
BACK UNDERARM SEAM
BACK LINE
CENTER LINE
FRONT LINE
FRONT UNDERARM SEAM
ELBOW LEVEL
NEW HEMLINE
3½"
3½"
3½"
OLD HEMLINE
12⅝"

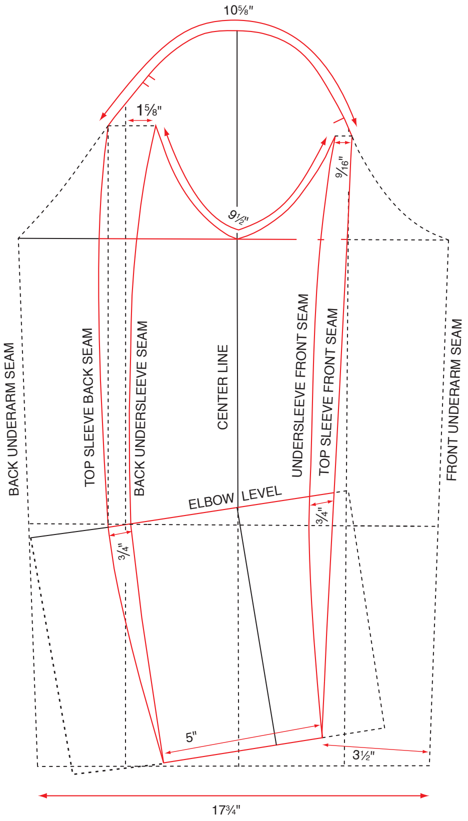
STEP 18
STARTING TO DEVELOP THE TWO-PIECE SLEEVE

- Divide the width of the new biceps level into four and mark. From these points square up to the same level as the shoulder tip and down to the sleeve hemline to divide the sleeve into four sections widthways. Label the new lines *back line, center line*, and *front line* to recreate the frame of the original sleeve sloper.
- On the back underarm seam, mark (A) where it intersects the elbow level and (B) where it intersects the new hemline.
- On the front line, mark (C) where it intersects the new hemline and (D) where it intersects the elbow level.
- Mark (1) where the elbow level intersects the back line. The square created by points (A), (B), (C), and (D) will now be pivoted counterclockwise from (1) on the elbow level by $1\frac{3}{16}$in, measured from the center line at the hem. Do this by copying the square onto a separate piece of paper to pivot and draw in the new position.
- Square down from the back seam panel alignment notch. Trace off the triangular shape between the sleeve cap and the biceps level. Flip this shape over and position it so that the back corner of the sleeve at biceps level aligns at the center line along the biceps level. Copy the shape over. Repeat from the front seam panel alignment notch.


SEAM PANEL ALIGNMENT ON BODY
SLEEVE MASTER PLAN
SEAM PANEL ALIGNMENT ON BODY
BICEPS LEVEL
BACK UNDERARM SEAM
BACK LINE
CENTER LINE
FRONT LINE
FRONT UNDERARM SEAM
A
⅜"
1
NEW ELBOW LEVEL
OLD ELBOW LEVEL
D
1 3/16"
B
C
NEW HEMLINE
OLD HEMLINE

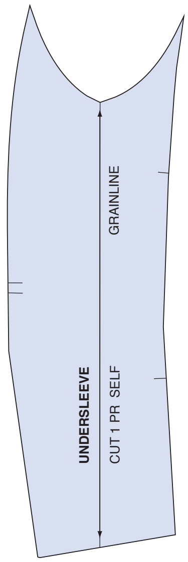
STEP 19
DEVELOPING THE TOP AND UNDERSLEEVE SHAPES

- To develop the top sleeve front seam square in $3\frac{1}{2}$in from the front underarm seam until you intersect the new angled hemline and from this point draw a line up to connect with the front seam panel alignment notch.
- To create the top sleeve back seam continue to measure 5in along the angled hemline, which gives the hem facing. Using a curved line connect this point to the back seam panel alignment notch, passing through the elbow level.
- To develop the undersleeve shape square in $1\frac{5}{8}$in from the back seam panel alignment notch and from this point draw down a curved line passing through the elbow level $\frac{3}{4}$in in from the top sleeve back seam (measured along the elbow level) connecting to the hemline.
- From the front seam panel alignment notch measure in $\frac{9}{16}$in to ensure that the front and back underarm seams are aligned on the center line. (This method may differ depending on changes made to the basic sleeve sloper following any lowering of the armhole.) Using a curved line connect this point with the hemline, passing through the elbow level $\frac{3}{4}$in in from the top sleeve front seam (measured along the elbow level).


10⅝"
1⅝"
9/16"
9½"
BACK UNDERARM SEAM
TOP SLEEVE BACK SEAM
BACK UNDERSLEEVE SEAM
CENTER LINE
UNDERSLEEVE FRONT SEAM
TOP SLEEVE FRONT SEAM
FRONT UNDERARM SEAM
ELBOW LEVEL
¾"
¾"
5"
3½"
17¾"

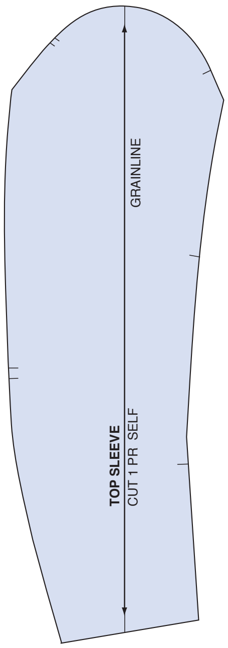
STEP 20
UNDERSLEEVE PATTERN

- Following the instructions on page 50, trace off the final undersleeve pattern, adding in alignment notches.


GRAINLINE
UNDERSLEEVE
CUT 1 PR SELF

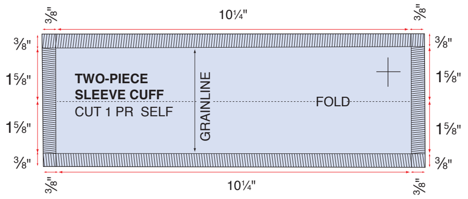
STEP 21
TOP SLEEVE PATTERN

- Following the instructions on page 50, trace off the final top sleeve pattern, adding in alignment notches.

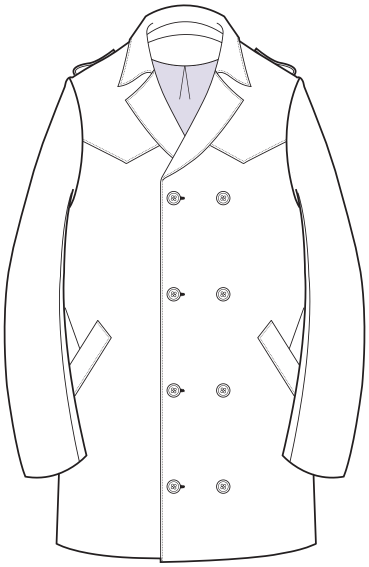

GRAINLINE
TOP SLEEVE
CUT 1 PR SELF

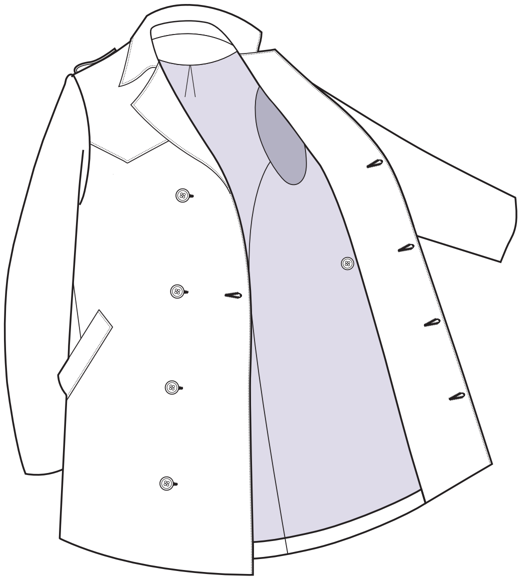
STEP 22
TWO-PIECE SLEEVE CUFF PATTERN

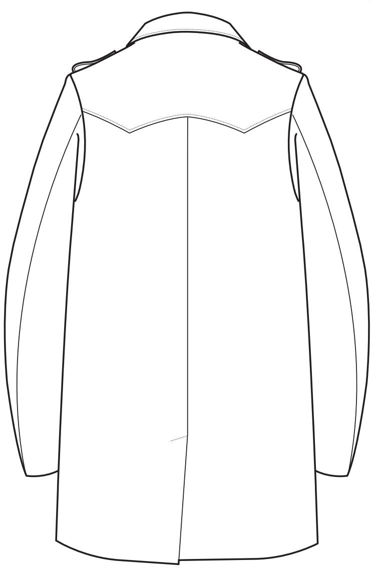
- Construct a rectangle 10¼in long by 3¼in (1⁹⁄₁₆in doubled in width for a folded cuff). Add a ⅜in seam allowance on all sides to create the final pattern.

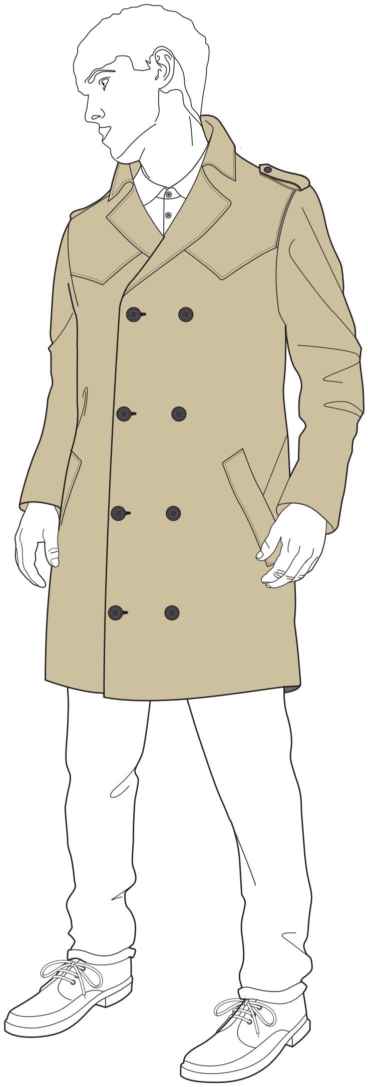

⅜"
10¼"
⅜"
⅜"
⅜"
1⅝"
1⅝"
TWO-PIECE
SLEEVE CUFF
CUT 1 PR SELF
GRAINLINE
FOLD
1⅝"
1⅝"
⅜"
⅜"
⅜"
10¼"
⅜"

PATTERN
TRENCH COAT





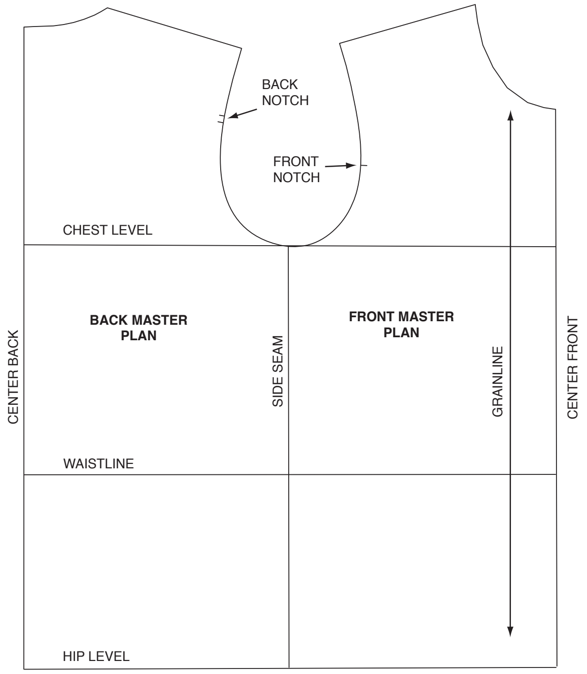




This pattern includes development of the following features:
Shaping the body panels, moving the side seam to the back
Creating a double-breasted extension
Extending the hemline
Lowering the armhole
Creating a center back vent
Developing a storm flap and epaulet
Developing front welted pockets
Developing a shaped convertible collar with hidden stand and lapel
Developing a tailored two-piece sleeve with cuff vent
Developing a full body lining

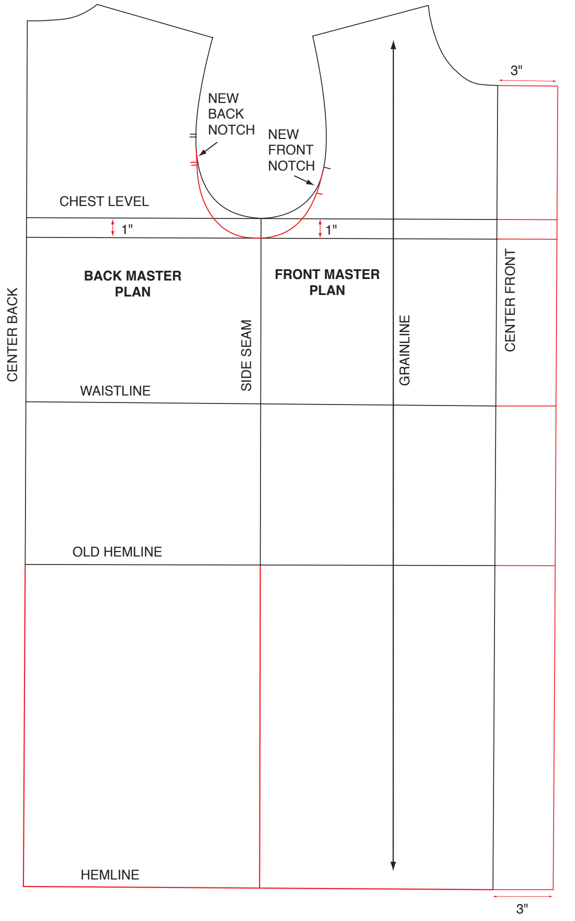
Fitting the trench coat

Traditionally, trench coats were produced as an outer garment to be worn over suit jackets or dress coats. Chest circumferences, neck openings, armholes, sleeve caps, and sleeve lengths were all made larger to accommodate the garment underneath. Modern interpretations combined with a more casual approach to dress no longer dictate that trench coats should be oversized. When developing this style, take into account the formality or informality of the garment you are designing, together with how it may be worn.


BACK NOTCH
FRONT NOTCH
CHEST LEVEL
BACK MASTER PLAN
FRONT MASTER PLAN
CENTER BACK
SIDE SEAM
GRAINLINE
CENTER FRONT
WAISTLINE
HIP LEVEL

STEP 1
DEVELOPING THE MASTER PLAN

Start by selecting the basic men's upper body sloper, or by drafting the basic sloper according to the instructions on page 40. Cut a large piece of drafting paper slightly longer than the length of the coat you want to develop and transfer the shape of the sloper and all marks, labels, and instructions following the directions on page 48.


3"
NEW BACK NOTCH
NEW FRONT NOTCH
CHEST LEVEL
1"
1"
BACK MASTER PLAN
FRONT MASTER PLAN
CENTER BACK
SIDE SEAM
GRAINLINE
CENTER FRONT
WAISTLINE
OLD HEMLINE
HEMLINE
3"

STEP 2
LOWERING THE ARMHOLE, EXTENDING THE HEMLINE, AND DEVELOPING THE DOUBLE-BREASTED EXTENSION

- From the chest level square down 1in on each side and starting from the new underarm / side seam corner redraw the new armhole shape using the basic upper body slopers as a template. Transfer the back and front notches to their new positions on the lowered armhole.
- Extend the side seam, center front, and center back lines down vertically from the existing hemline to the required length of the coat.
- Square across from the center front to the center back at the new hemline.
- To develop the double-breasted extension, square out 3in from the center front at the neckline.
- Repeat at the hemline.
- Connect the two points with a vertical line to create the double-breasted extension.

STEP 3

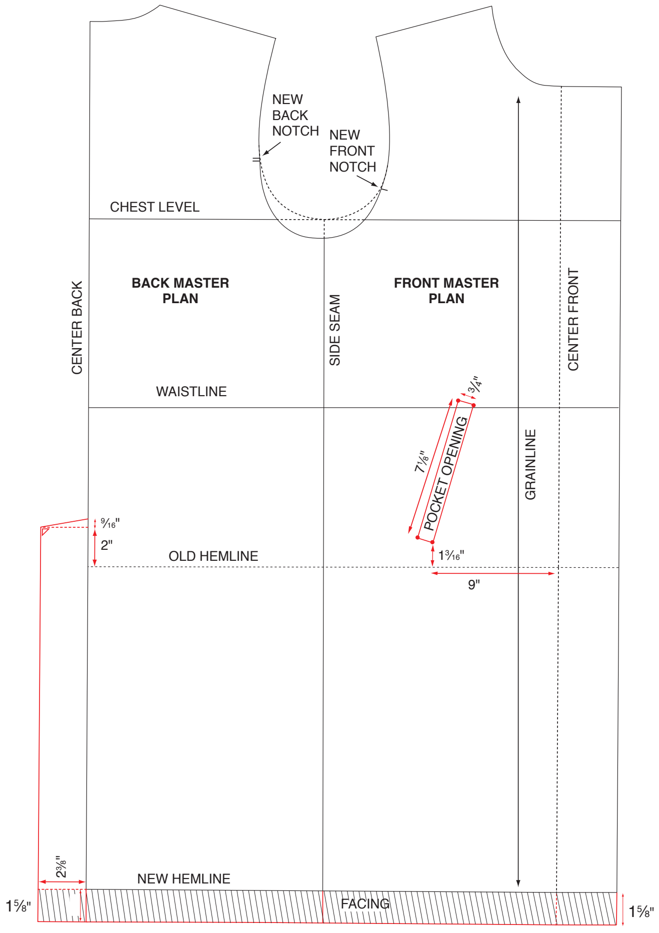
DEVELOPING THE HEMLINE FACING, BACK VENT, AND FRONT WELTED POCKET POSITION

Developing the hemline facing, back vent, and front welted pocket position

Most trench coat styles have a back vent incorporated into the design. The job of this vent is to allow freedom of movement around the leg and seat area. Sitting down in a closed garment will restrict body movement and feel uncomfortable. The length of your design will generally determine the length of the vent needed; the longer the coat or jacket, the longer the vent.

The vent extension has a diagonal line at the top so that the seams, when pressed, are not as bulky as they would be if the vent was square. A diagonal seam with less bulk creates an optical illusion, drawing your eye away from this detail. Take time to look at other examples of vents as you do your research. You will find that some are topstitched along this diagonal seam and others are sewn internally.

- Add the hem allowance to the bottom of the pattern as a horizontal rectangle measuring 1 5/8in in width.
- To develop the vent measure 2in up the center back from the old hemline, and from this point square out 2 3/8in.
- From the bottom of the hemline allowance, square out 2 3/8in. Join the two points with a vertical line.
- Now measure an additional 9/16in up the center back line and mark.
- Draw a line from this point down to the top of the vent extension at its outside edge, creating a diagonal line at the top of the vent.
- To develop the rectangular pocket opening, measure in 9in along the old hemline from the center front and then square up 1 3/16in and mark; this will be the bottom right-hand corner of the pocket opening. Create a rectangle 7 1/8in long by 3/4in wide at an angle of your choice.
- Mark each corner of the pocket opening with a drill hole.


NEW BACK NOTCH
NEW FRONT NOTCH
CHEST LEVEL
BACK MASTER PLAN
FRONT MASTER PLAN
CENTER BACK
SIDE SEAM
CENTER FRONT
WAISTLINE
3/4"
7 1/8"
POCKET OPENING
GRAINLINE
9/16"
2"
OLD HEMLINE
1 3/16"
9"
2 3/8"
NEW HEMLINE
FACING
1 5/8"
1 5/8"

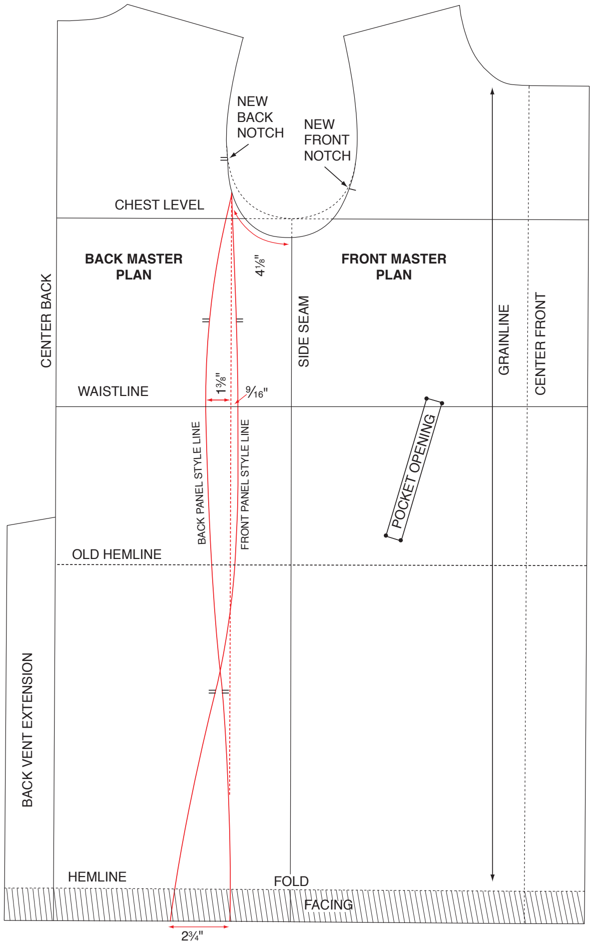
STEP 4

DEVELOPING THE SHAPING LINES

Shaping the coat

To create a fitted coat you can introduce shaping into the sloper by moving the side seam into the back panel. Once you have extended the front panel you can create two new style lines. Shaping is created by removing the internal volume between these lines. At the hemline you can add a little flare to the design by crossing the lines over, thus adding volume by extending the circumference of the hem.

- From the side seam, measure 4⅛in along the back armhole toward the back notch, and draw a vertical line down from this point to the hemline.
- From the intersection of this line with the waistline, measure 1⅜in toward the center back and 9/16in toward the side seam and mark both points.
- Join these new points back up to the armhole with slightly curved lines.
- Label the line that defines the new back panel shape *back panel style line*.
- Label the line that defines the new front panel shape *front panel style line*.
- Continue the back panel style line down in a graduated curve until it meets the vertical line you first drew.
- At the hemline, measure out 2¾in from the vertical line you first drew toward the center back and mark.
- Continue the front panel style line down in a graduated curve until it meets this new point.



NEW BACK NOTCH
NEW FRONT NOTCH
CHEST LEVEL
BACK MASTER PLAN
FRONT MASTER PLAN
4⅛"
CENTER BACK
SIDE SEAM
GRAINLINE
CENTER FRONT
WAISTLINE
1⅜"
9/16"
BACK PANEL STYLE LINE
FRONT PANEL STYLE LINE
POCKET OPENING
OLD HEMLINE
BACK VENT EXTENSION
HEMLINE
FOLD
FACING
2¾"

STEP 5

DEVELOPING THE SHAPED CONVERTIBLE COLLAR WITH HIDDEN STAND AND LAPEL AND POSITIONING THE FRONT DART LINE

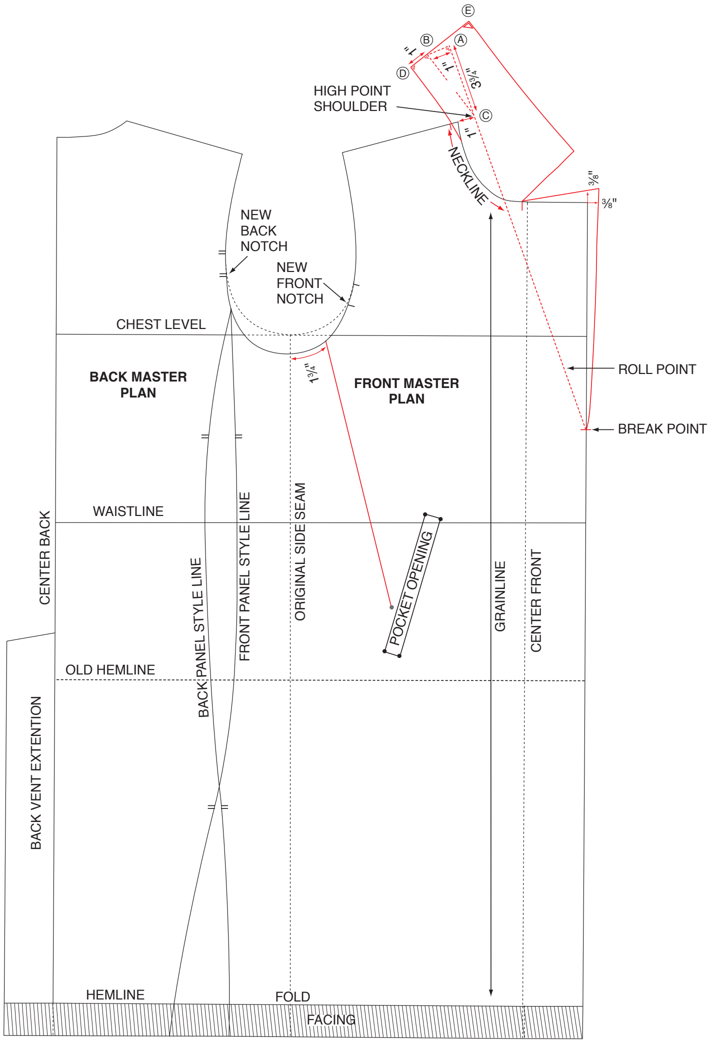
Break point and roll line

The point at which the front will turn over to create a lapel is called the break point (BP) and the line that it turns on is the roll line. The lower down the front your BP is, the wider an opening you will have around the neck silhouette.

Collar measurements and lapel shape

To draft the lapel and shaped convertible collar with hidden stand for a pattern with a front neck measurement of 5³⁄₄in, excluding the double breast extension, and a back neck measurement of 3³⁄₄in, first locate the position on the pattern where you want your collar to break on the new front edge line of the body section. To work out the shape and size of the lapel and collar, consider the proportion of your design and the length of the silhouette. It is always a good idea to assess the shape of the lapel by folding the paper back on the roll line. Redraw and develop the shape until you are satisfied.

- To give the front of your lapel some shape, from the neckline square out ³⁄₈in and square up ³⁄₈in. Find the new front neck point and join this point back to the neckline and down to the break point with slight curves to give the shaping for the lapel.
- From the high point shoulder continue the shoulder seam out 1in and mark point (C).
- From the break point on the front line draw a straight dotted line to (C).
- Continue this line beyond (C) for 3³⁄₄in (the length of the back neck measurement) and mark point (A).
- Square left 1in and mark point (B).
- Join points (B) and (C) with a dotted line.
- From (B) square out 1in back toward the shoulder and mark point (D).
- From (D) square back into the shoulder, curving the line slightly back toward the neckline and cutting off the high point shoulder.
- Continue the straight line from (D) through (B), extending it to the width you would like to make the collar, and mark point (E).
- At a right angle from (E) draw out the collar shape you require.
- Mark a notch at the point where the top collar joins the neckline and at the point where it meets the shoulder line.
- To position the line of the front dart, measure 1³⁄₄in from the original side seam along the front armhole toward the front notch. From here draw a straight line in toward the pocket, finishing one-quarter of the way up from the bottom of the pocket opening. This is the line of the dart.



Ⓔ
Ⓑ
Ⓐ
1"
Ⓓ
1"
3³⁄₄"
HIGH POINT SHOULDER
Ⓒ
1"
NECKLINE
³⁄₈"
³⁄₈"
NEW BACK NOTCH
NEW FRONT NOTCH
CHEST LEVEL
BACK MASTER PLAN
1³⁄₄"
FRONT MASTER PLAN
ROLL POINT
BREAK POINT
WAISTLINE
CENTER BACK
BACK PANEL STYLE LINE
FRONT PANEL STYLE LINE
ORIGINAL SIDE SEAM
POCKET OPENING
GRAINLINE
CENTER FRONT
OLD HEMLINE
BACK VENT EXTENTION
HEMLINE
FOLD
FACING

STEP 6

DEVELOPMENT OF THE FRONT DART SHAPING

Rotating the pattern

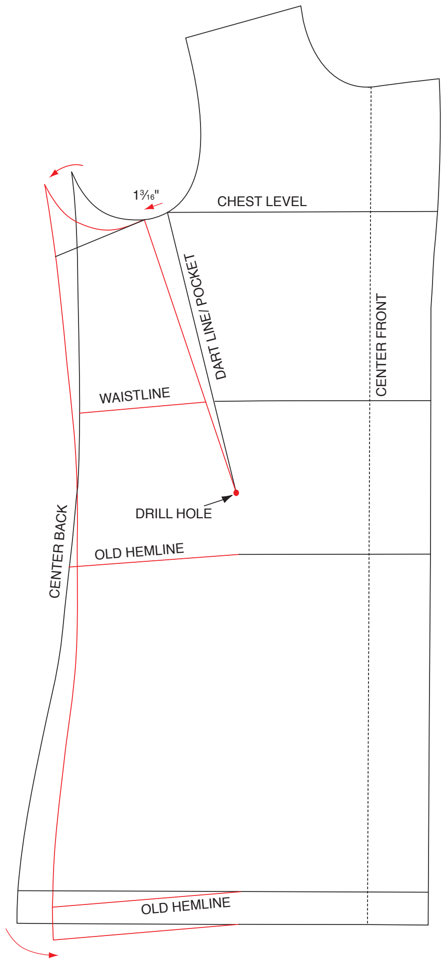
Creating and opening a dart on the front panel will allow you to introduce shaping that runs from under the arm toward the front pocket, giving the trench coat a closer fitted silhouette. This dart is achieved by opening and rotating, or pivoting, the pattern.

- Trace off the shape of the front panel from the master plan onto a separate piece of paper.
- To open the dart line at the armhole, on another piece of paper trace around the front panel starting from the end of the dart line at the pocket opening, up to the top of the dart line at the armhole and then continuing in a clockwise direction until the point directly under the end of the dart on the hemline.
- Make sure the two pieces of paper are aligned exactly, and at the pocket end of the dart line place a drill hole through both pieces of paper.
- With an awl holding the pieces of paper down at the same point, pivot the new pattern clockwise so that the top of the dart line moves a distance of $1\frac{3}{16}$in to the left.
- Trace along the dart line again, creating the second side of the dart, and continue to trace the rest of the panel shape.
- After pivoting, the hemline will be pitched lower toward the center back line. Blend the two lines together with a shallow curve. Once the dart is closed this will bring the hemline back up into a straight line.

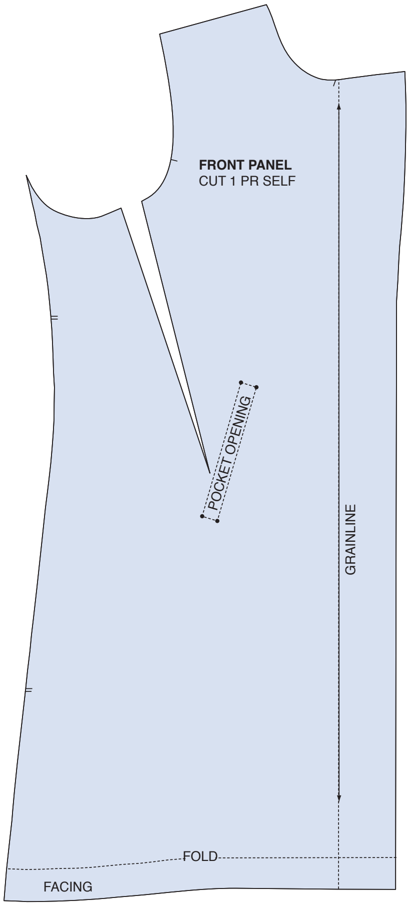
STEP 7

FRONT PANEL PATTERN

- Following the instructions on page 50, trace off the front panel pattern.



$1\frac{3}{16}$"
CHEST LEVEL
DART LINE/ POCKET
CENTER FRONT
WAISTLINE
DRILL HOLE
OLD HEMLINE
CENTER BACK
OLD HEMLINE



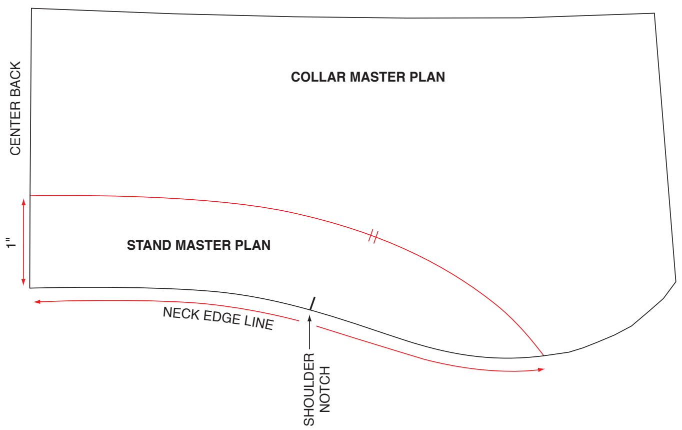
FRONT PANEL
CUT 1 PR SELF
POCKET OPENING
GRAINLINE
FOLD
FACING

STEP 8

DEVELOPING THE SHAPED CONVERTIBLE COLLAR WITH HIDDEN STAND

The shaped convertible collar with hidden stand

In this design the trench coat collar has a separate stand incorporated which allows the collar to turn over and sit flat around the back of the neck.

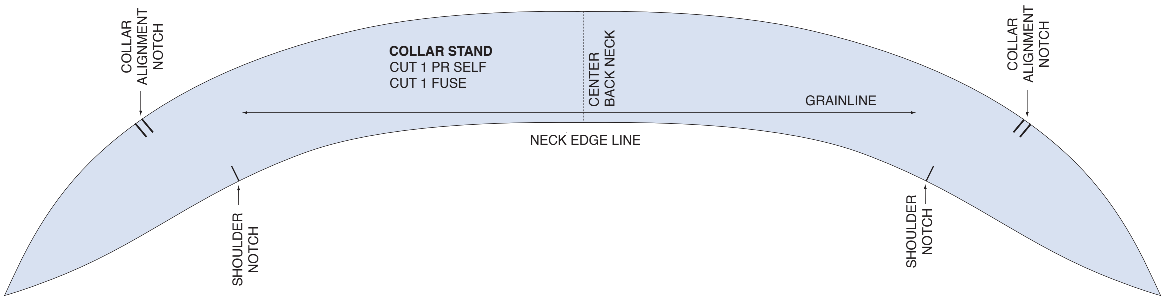

COLLAR MASTER PLAN
CENTER BACK
1"
STAND MASTER PLAN
NECK EDGE LINE
SHOULDER NOTCH

- Fold a piece of paper in half and, laying the fold on the center back of the collar on the master plan, trace off the shape of the collar (including the notches). Label the center back. This is the collar master plan and you will be developing this in half.
- The next step is to create the stand shape. Measure 1in up the center back (the width of the collar stand). From this point draw a curved line that ends where the roll line intersects the neckline on the master plan. This ensures that the stand will not be seen when the collar is turned down.
- Place a double notch along this new line.

STEP 9

COLLAR STAND PATTERN

- Trace off the collar stand pattern onto a new piece of paper and, following the instructions on page 50, create the full pattern shape.


COLLAR ALIGNMENT NOTCH
COLLAR STAND
CUT 1 PR SELF
CUT 1 FUSE
CENTER BACK NECK
GRAINLINE
COLLAR ALIGNMENT NOTCH
NECK EDGE LINE
SHOULDER NOTCH
SHOULDER NOTCH

STEP 10

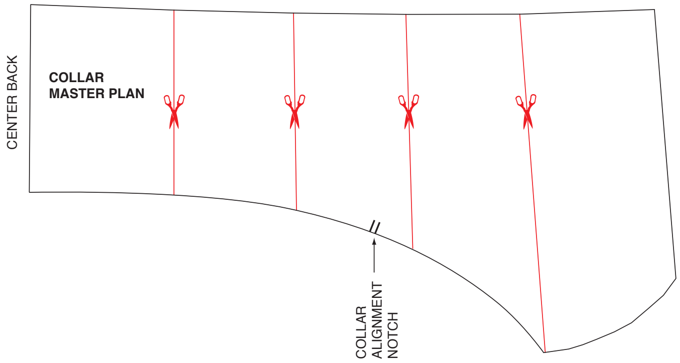
DEVELOPING THE COLLAR USING SLASH AND SPREAD

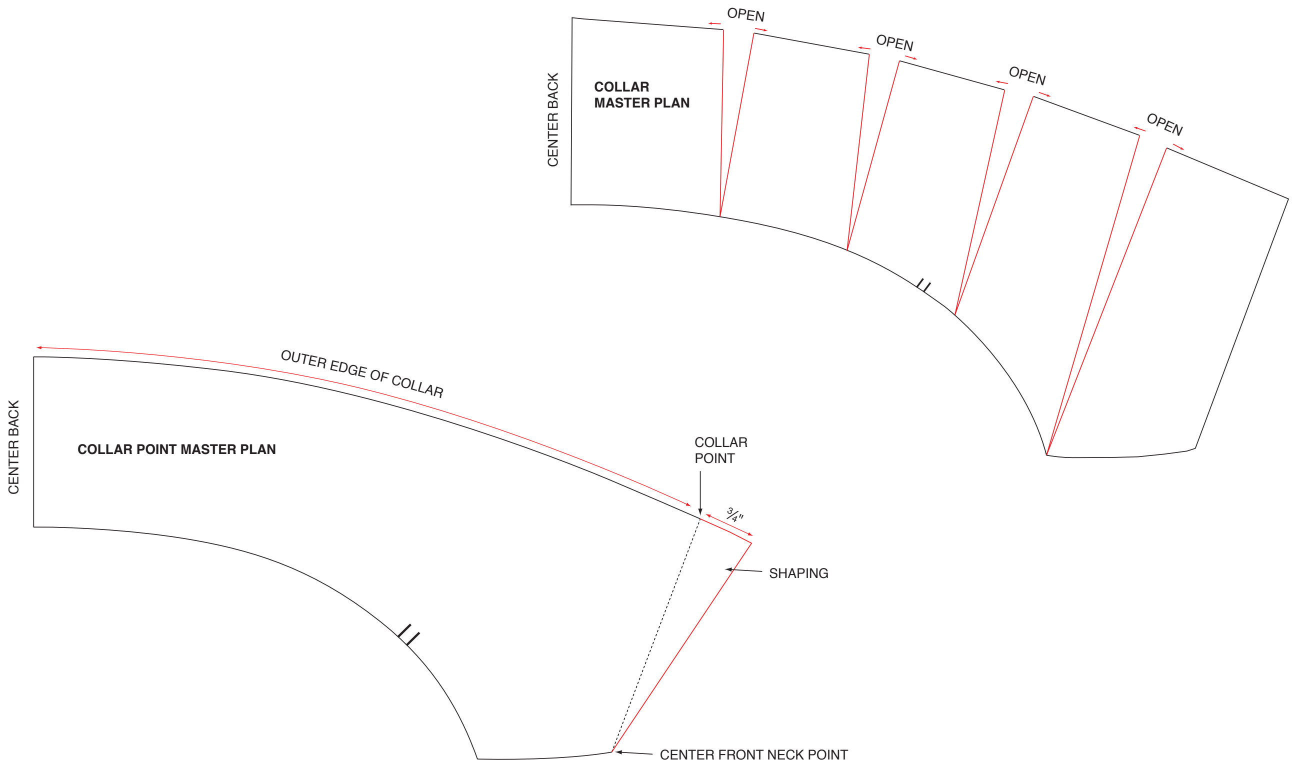
Slash and spread

In order to sit flat across the shoulders, the outer edge of the collar needs to be wider than the inside edge. You can use the slash and spread method to increase the length of the outer edge of the collar.

Slash and spread is a technique that allows you to introduce fullness or volume to an area of a pattern by cutting a line in the pattern and opening the two sides out at one end of the line only. Once you have introduced the volume, you can then trace off the new shape.

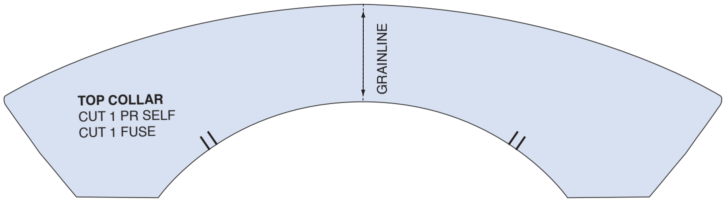
- Trace off the half collar shape without the stand from the collar development.
- Measure across the length of the half collar and draw lines to divide it into five equal sections.
- Cut down each line toward the stand, but do not cut right through to the edge.
- Transfer the measurements obtained from your muslin to your paper pattern, and open out the lines on the pattern to the same distances as on the muslin.
- Redraw the collar, creating a smooth curve at the outer edge.
- You may find that the collar point is too square and you need to add some shaping according to the style of the design. Continuing the curve, measure out $\frac{3}{4}$in from the edge of the collar and draw a line back to the center front neck point.


CENTER BACK
COLLAR MASTER PLAN
COLLAR ALIGNMENT NOTCH


OPEN
OPEN
OPEN
OPEN
CENTER BACK
COLLAR MASTER PLAN
OUTER EDGE OF COLLAR
CENTER BACK
COLLAR POINT MASTER PLAN
COLLAR POINT
¾"
SHAPING
CENTER FRONT NECK POINT

STEP 11
TOP COLLAR PATTERN

- Trace off the half collar pattern and, following the instructions on page 50, create the full pattern shape.

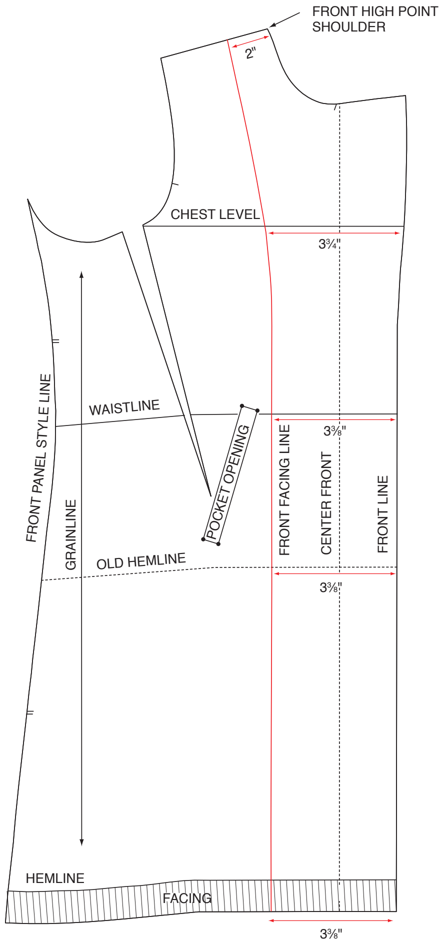

GRAINLINE
TOP COLLAR
CUT 1 PR SELF
CUT 1 FUSE

STEP 12
DEVELOPING THE FRONT FACING SHAPE

Front facing

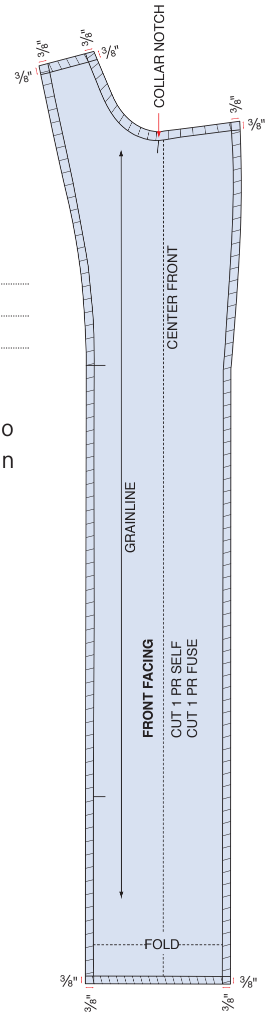
In this design make the front facing wider than the double-breasted extension so that the button and buttonhole are cut and sewn through the main fabric, giving them support and strength.

- Develop the front facing on the front panel pattern.
- From the new front line measure in 3¾in along the chest level, and measure in 3⅜in along the waistline, the old hemline, and the new hemline.
- From the high point shoulder measure 2in along the shoulder seam toward the armhole.
- Draw a straight line connecting these points from the hemline up toward the shoulder seam, blending through the chest level to the marked point on the shoulder with a smooth curve.


FRONT HIGH POINT SHOULDER
2"
CHEST LEVEL
3¾"
WAISTLINE
3⅜"
POCKET OPENING
FRONT PANEL STYLE LINE
GRAINLINE
OLD HEMLINE
FRONT FACING LINE
CENTER FRONT
FRONT LINE
3⅜"
HEMLINE
FACING
3⅜"

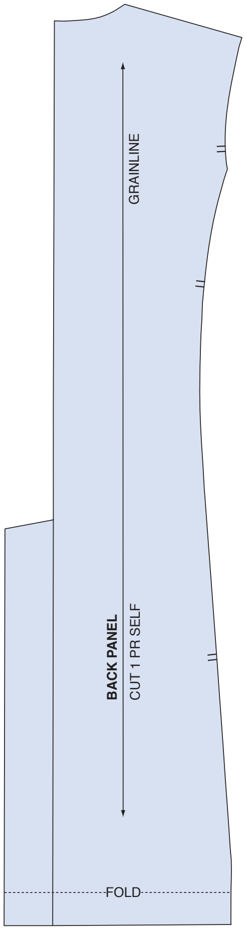
STEP 13
FRONT FACING PATTERN

- Following the instructions on page 50, trace off the front facing shape to create the final pattern, adding a ⅜in seam allowance to all sides.


⅜"
⅜"
⅜"
⅜"
COLLAR NOTCH
⅜"
⅜"
CENTER FRONT
GRAINLINE
FRONT FACING
CUT 1 PR SELF
CUT 1 PR FUSE
FOLD
⅜"
⅜"
⅜"
⅜"

STEP 14
BACK PANEL PATTERN

- Following the instructions on page 50, trace off the back panel pattern.

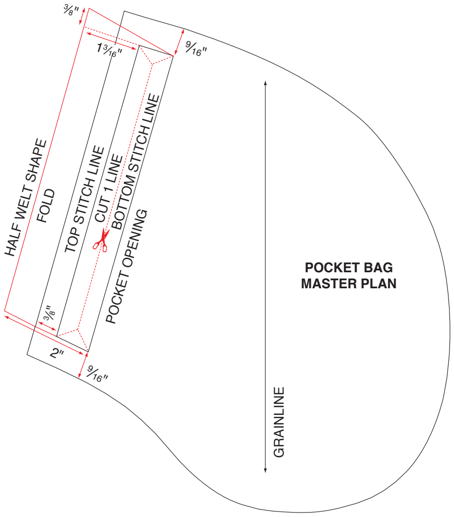


STEP 15
DEVELOPING THE FRONT WELTED POCKET STAND AND BAGS

Pocket shape

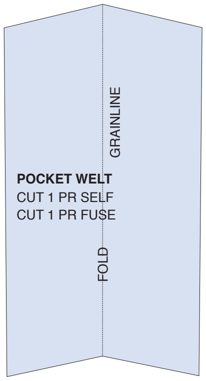
The pocket bag for this trench coat is not rectangular like most patch pockets but shaped like half a human kidney. The depth and width is determined by the opening you have drawn on your master plan and the internal space available to position the pocket within the design.

- Start by creating a separate master plan on a new piece of paper. Trace round the rectangular pocket opening shape, indicating the direction of the grainline next to it.
- Label the two long sides of the rectanglar box *top stitch line* and the other *bottom stitch line*. The pocket and welt stand shapes are developed from these lines.
- To develop the bag shape, square out $\frac{3}{8}$in from the top stitch line at each end and connect the points. Extend this line $\frac{9}{16}$in at each end.
- Starting from a right angle at each end of this line, draw a half kidneylike shape that, once constructed, will hang below the pocket opening.
- When drawing the pocket bag shape check that you do not extend it too far forward so that it interferes with the facing or button placements. This will now become your top pocket bag shape.
- To develop the shape for the welted pocket stand, which will be attached to the bottom stitch line during construction, square out 2in from the bottom stitch line at each end and connect the points. At the top end extend the line by $\frac{3}{8}$in and connect this point back to the bottom stitch line at an angle. This will conceal the opening when sewn down.



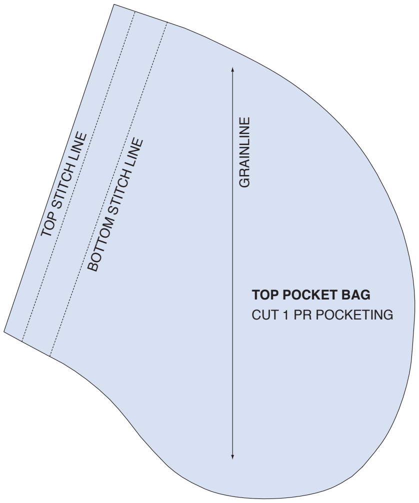
STEP 16
POCKET WELT PATTERN

- The welt flap shape that you have just developed is only a half pattern. Trace it off and, following the instructions on page 50, create the full pattern.


GRAINLINE
POCKET WELT
CUT 1 PR SELF
CUT 1 PR FUSE
FOLD

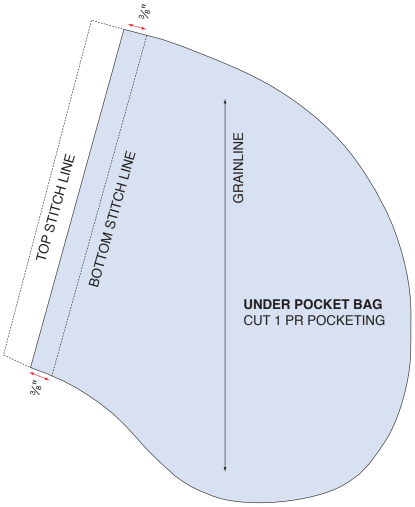
STEP 17
TOP POCKET BAG PATTERN

- Following the instructions on page 50, trace off the pocket bag shape.


TOP STITCH LINE
BOTTOM STITCH LINE
GRAINLINE
TOP POCKET BAG
CUT 1 PR POCKETING

STEP 18
UNDER POCKET BAG PATTERN

- Following the instructions on page 50, trace off the top pocket bag shape to create the under pocket bag pattern; make sure you carry over the stitch lines. The under pocket bag is smaller than the top pocket bag. To create the under pocket bag pattern, measure up 3⁄8in from the understitch line and draw a parallel line; this is the new edge of the pattern.


3⁄8"
TOP STITCH LINE
BOTTOM STITCH LINE
GRAINLINE
UNDER POCKET BAG
CUT 1 PR POCKETING
3⁄8"

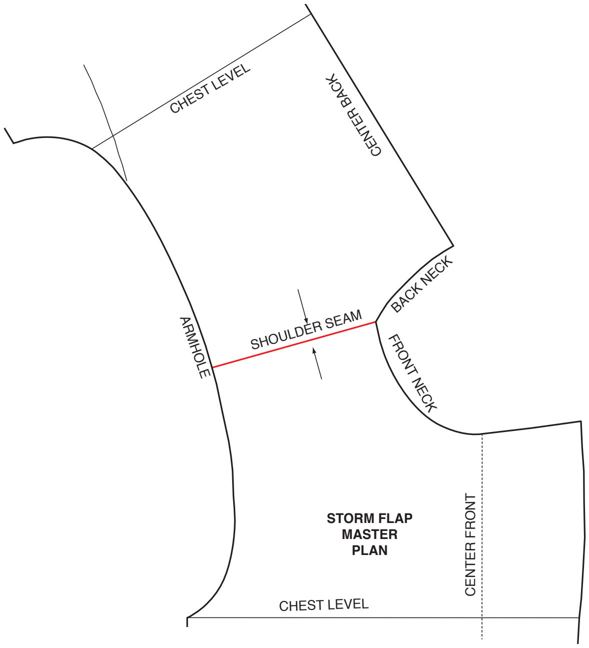
STEP 19

STORM FLAP AND EPAULET MASTER PLAN

Storm flap

A design feature on this trench coat style is the classic storm flap that is associated with many outerwear garments. The flap is sewn down to the front chest and to the back, leaving the armhole open. Storm flaps are open to interpretation and can be designed in many different ways.

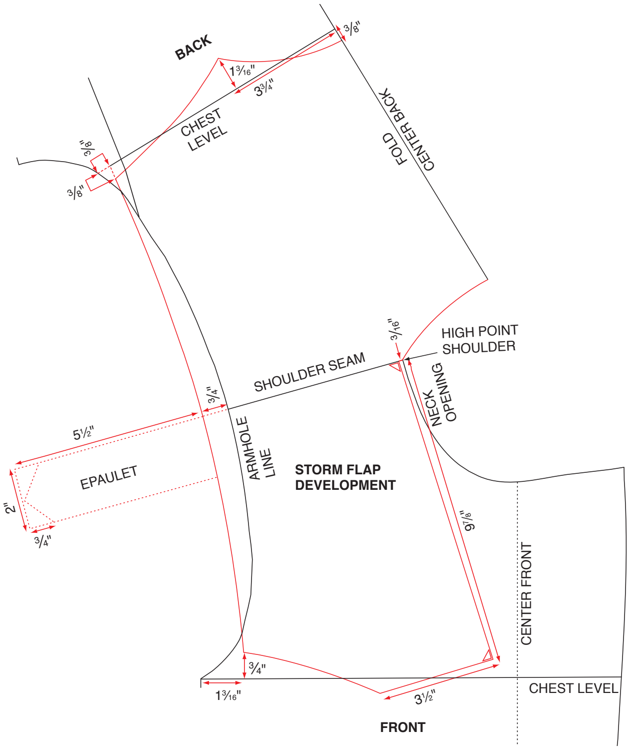
- Cut a piece of paper large enough to cover the front and back upper body panels.
- Draw a horizontal line through the middle of the paper.
- Place the front and back body panels together at the shoulder, as you would if you were sewing them together, and position the shoulders along the seam.
- Trace round the front and back upper body from the chest level up, including the armhole.
- This is the storm flap master plan onto which you will develop the style lines.


CHEST LEVEL
CENTER BACK
BACK NECK
ARMHOLE
SHOULDER SEAM
FRONT NECK
STORM FLAP MASTER PLAN
CENTER FRONT
CHEST LEVEL

STEP 20

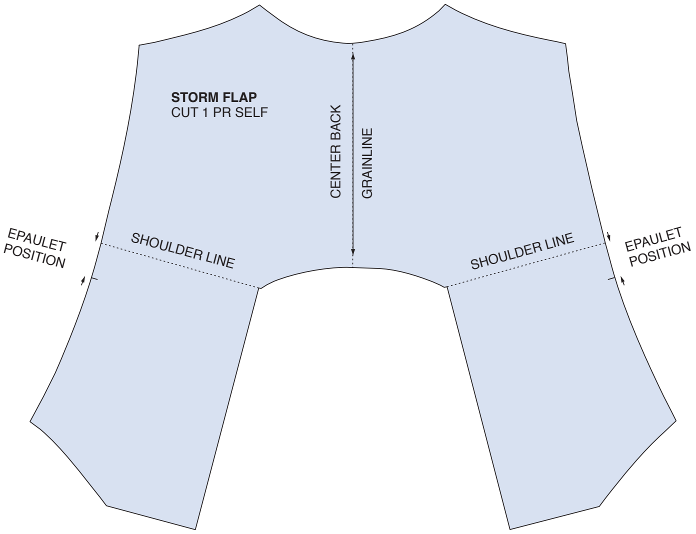
DEVELOPING THE STORM FLAP AND EPAULET

- To develop the storm flap as a half pattern with the epaulet protruding from the shoulder, start from the high point shoulder, measure in 3⁄16in along the shoulder seam, then square down 9⁷⁄8in toward the chest level and center front.
- From this point square across 3¹⁄2in to just below the chest level and mark. From the front corner of the underarm and side seam measure in 1³⁄16in along the chest level and from here square up 3⁄4in and mark.
- Connect these two points with a curve to complete the lower front edge of the storm flap.
- To draft the side of the flap around the armhole, extend the shoulder seam out 3⁄4in. Next measure in 3⁄8in from the back armhole along the chest level and then square up 3⁄8in and mark. With a shallow curve, join this point to the end of the extended shoulder seam and the point at the outside edge of the front of the flap.
- To shape the lower edge of the back of the storm flap first locate the position of the lower back point. To do this measure in 3³⁄4in from the center back along the chest level and square down 1³⁄16in and mark.
- Then locate the apex of the curve on the center back by measuring 3⁄8in up the center back line from the chest level and mark.
- Join this point to the lower back point with a curve, representing half of the curve across the center back. Draw a shallow curve from the lower back point to the point at the edge of the armhole curve.
- To draft the epaulet draw a 5¹⁄2in line out from the shoulder seam, square down 2in toward the front chest level, and square back toward the armhole. Create the point at the end of the epaulet by measuring 3⁄4in back down both sides and then joining these two points to a central point at the tip.


BACK
3⁄8"
1³⁄16"
3³⁄4"
CHEST LEVEL
FOLD
CENTER BACK
3⁄8"
3⁄8"
3⁄16"
HIGH POINT SHOULDER
SHOULDER SEAM
NECK OPENING
3⁄4"
5¹⁄2"
ARMHOLE LINE
STORM FLAP DEVELOPMENT
EPAULET
2"
3⁄4"
9⁷⁄8"
CENTER FRONT
3⁄4"
1³⁄16"
3¹⁄2"
CHEST LEVEL
FRONT

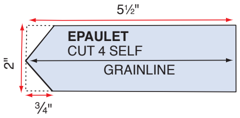
STEP 21
STORM FLAP PATTERN

- Trace off the storm flap onto a new piece of paper and, following the instructions on page 50, create the full pattern shape, indicating with notches the position of the epaulet.



STEP 22
EPAULET PATTERN

- Following the instructions on page 50, trace off the pattern for the epaulet.



STEP 23
DEVELOPING THE TWO-PIECE TAILORED SLEEVE

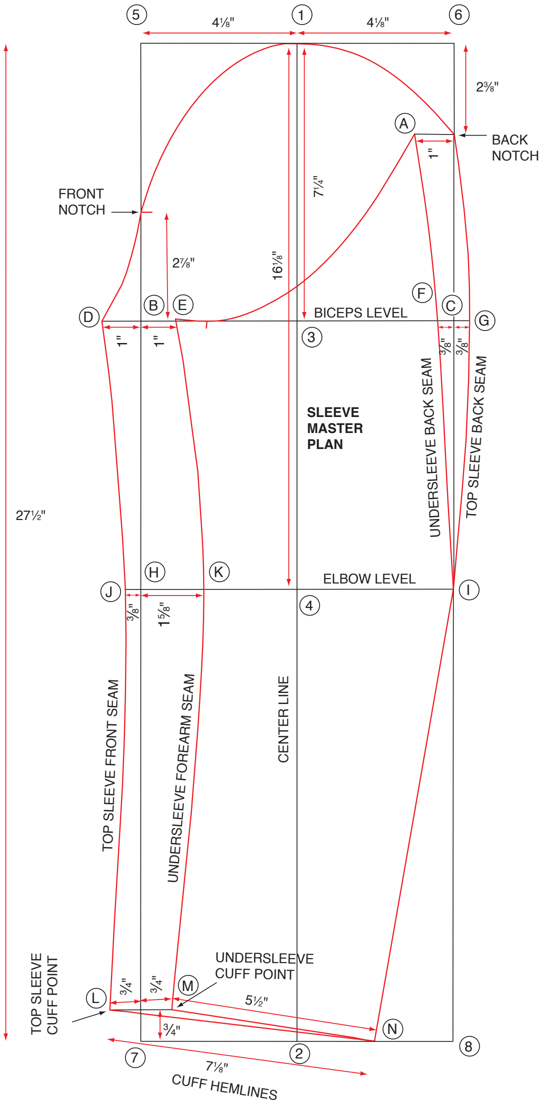
Measurements required to develop the sleeve

Measurements required to draft the sleeve:

- Armhole 21¼in + 1⅜in ease = 22½in. (Take this measurement from the basic upper body sloper.)
- Sleeve length to wrist = 27½in. (Take this from the shoulder tip, running down the back of the elbow to the wrist; extra length can be added at this point to suit your design.)
- Top of sleeve cap to elbow length = 16⅛in.
- Upper biceps circumference = 13⅜in. (Take this measurement from round the upper arm; extra width “ease” can be added for movement.)
- Cuff measurement = 12⅝in. (This garment is taken from the basic tapered sloper. As an overgarment there is no need to reduce the cuff width.)
- Sleeve cap height = 7¼in.

- Cut a large piece of drafting paper slightly longer than the length of your sleeve or the arm length of your fit model.
- Draw a 27½in vertical line down the center and label it *center line*; label the top of this line (1) and the bottom (2). This is the length of the sleeve.
- From (1) measure down 7¼in (the sleeve cap height, or one-third of the armhole measurement not including ease, to which you can allow tolerance of plus or minus 3⁄16in) and label point (3).
- From (1) measure down 16⅛in (the elbow length) and label point (4).
- Divide the armhole measurement (22½in) by 6 to give 3¾in and add ⅜in volume to give 4⅛in. From (1) square out 4⅛in to the left and to the right and label these points (5) and (6).
- From (2) measure out 4⅛in to the left and to the right and label these points (7) and (8).
- Connect all points, (5), (6), (7), (8), to form a rectangle.
- Divide the sleeve cap height (7¼in) by 3 to give 2⅜in. From (6) measure down 2⅜in, make a mark, and label it *back notch*. From the back notch square in 1in and mark point (A); this is the top point of the back seam on the undersleeve.
- From (3) square out to the left to intersect the line from (5) to (7) and mark point (B), and square out to the right to intersect the line from (6) to (8) and mark point (C). This is the biceps level.
- From (B) measure out 1in and mark point (D), and measure in 1in and mark point (E). From (C) measure in ⅜in and mark point (F), and measure out ⅜in and mark point (G).

- To establish the front notch on the armhole divide the sleeve cap height (7¼in) by 2 to give 3⅝in, and subtract ¾in to give 2⅞in. This will ensure a rectangular shape to the sleeve cap instead of the square shape that would occur if the sleeve cap were just divided in half. From (B) measure up 2⅞in, make a mark, and label it *front notch*.
- From (4) square out to the left to intersect the line from (5) to (7) and mark point (H), and square out to the right to intersect the line from (6) to (8) and mark point (I). This is the elbow level.
- From (H) measure out ⅜in and mark point (J), and measure in 1⅝in and mark point (K).



⑤
①
⑥
4⅛"
4⅛"
2⅜"
Ⓐ
BACK NOTCH
1"
7¼"
FRONT NOTCH
2⅞"
16⅛"
Ⓓ
Ⓑ
Ⓔ
Ⓕ
Ⓒ
Ⓖ
BICEPS LEVEL
1"
1"
③
⅜"
⅜"
SLEEVE MASTER PLAN
UNDERSLEEVE BACK SEAM
TOP SLEEVE BACK SEAM
27½"
Ⓗ
Ⓚ
ELBOW LEVEL
Ⓙ
Ⓘ
④
⅜"
1⅝"
TOP SLEEVE FRONT SEAM
UNDERSLEEVE FOREARM SEAM
CENTER LINE
UNDERSLEEVE CUFF POINT
TOP SLEEVE CUFF POINT
Ⓛ
¾"
¾"
Ⓜ
5½"
¾"
Ⓝ
⑦
②
⑧
7⅛"
CUFF HEMLINES

- From (7) measure up ¾in and from this point measure out ¾in and mark point (L); this is the top sleeve cuff point. Measure in ¾in and mark point (M); this is the undersleeve cuff point.
- The cuff circumference is 12⅝in. Divide this between the top and undersleeve so that the top sleeve cuff width is 7⅛in and the undersleeve is 5½in. This allows the top sleeve seam to fall toward the back of the arm, slightly out of view.
- From (L) draw a line 7⅛in long to intersect the line from (7) to (8) and mark point (N). From (M) draw a line 5½in long to intersect the line from (7) to (8) also at point (N). These are the cuff hemlines.
- Draw in the top sleeve front seam by drawing a blended line connecting the points from (L) through (J) to (D).
- Draw in the undersleeve front seam by drawing a blended line connecting the points from (M) through (K) to (E).
- Using a French curve, draw in the top sleeve cap starting at (D) with a concave curve through the front notch where you reverse the curve to a convex curve up to (1) and back down to the back notch with a similar convex curve.
- Measure the length of this line and compare it to the measurement of the armhole on the front and back patterns. Here the length should be 14⅝in. Adjust the curves until the line is the correct measurement.
- Using a French curve, draw in the top of the undersleeve with convex curve starting at (E) up to (A).
- Again, measure this line and adjust it until it is the same measurement as the armhole on the front and back patterns—in this case 8¼in.
- Draw in the back seam of the top sleeve with a blended line from the back notch through points (G) to (I) and continue down to (N).
- Draw in the back seam of the undersleeve with a blended line from (A) through (F) to (I) and also continue with this seam on the same line as the top sleeve down to (N).

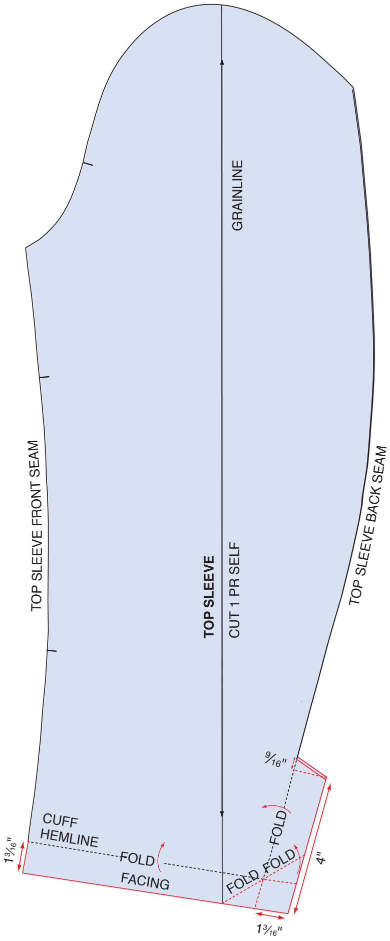
STEP 24

TOP SLEEVE PATTERN, FACING, AND CUFF VENT

Adding the sleeve facing

It is important that you have already established your sleeve length before adding a sleeve facing to the bottom of your sleeve.

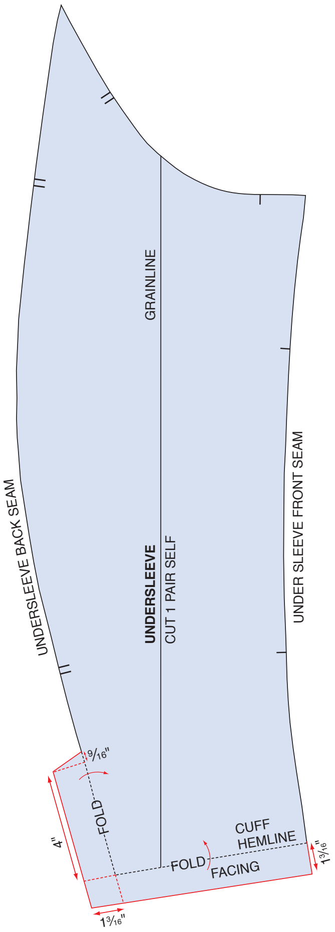
- Following the instructions on page 50, trace off the final top sleeve pattern, adding in alignment notches.
- From the sleeve hemline square down $1\frac{3}{16}$in and draw a rectangular box. This is the sleeve facing, which will be folded up inside the sleeve.
- Extend the length of the sleeve facing by $1\frac{3}{16}$in at the back seam to create a sleeve opening.
- Measure up 4in along the back seam and create a rectangular box $1\frac{3}{16}$in in width.
- Measure up a further $\frac{9}{16}$in and join this point to the outer corner of the box, creating an angle and shape similar to the center back vent.
- The corner of the sleeve facing and opening can be finished with a mitered seam once folded back and attached to the sleeve lining.


GRAINLINE
TOP SLEEVE FRONT SEAM
TOP SLEEVE
CUT 1 PR SELF
TOP SLEEVE BACK SEAM
9/16"
FOLD
CUFF HEMLINE
FOLD
FACING
FOLD
FOLD
4"
1 3/16"
1 3/16"

STEP 25

UNDERSLEEVE PATTERN, FACING, AND CUFF VENT

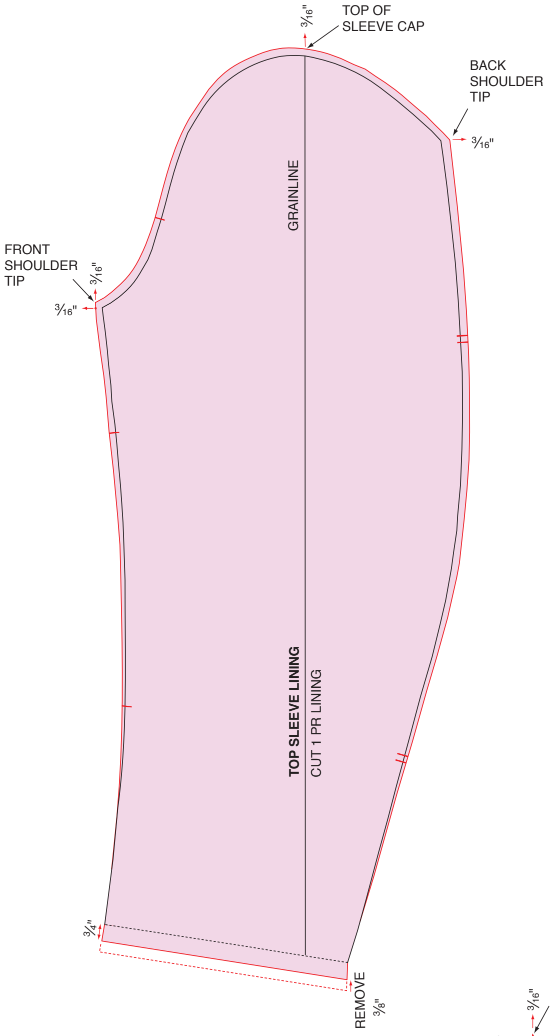
- Following the instructions on page 50, trace off the final undersleeve pattern, adding in alignment notches.
- From the sleeve hemline square down $1\frac{3}{16}$in and draw a rectangular box to create the sleeve facing.
- Extend the length of the sleeve facing by $1\frac{3}{16}$in at the back seam to create the other side of the sleeve opening.
- Measure up 4in along the back seam to create a rectangular box $1\frac{3}{16}$in in width.
- Measure up a further $\frac{9}{16}$in and join this point to the outer corner of the box, creating an angle and shape similar to the center back vent.
- The corner of the sleeve facing and opening can be finished with a mitered seam once folded back and attached to the sleeve lining.


GRAINLINE
UNDERSLEEVE BACK SEAM
UNDERSLEEVE
CUT 1 PAIR SELF
UNDER SLEEVE FRONT SEAM
9/16"
FOLD
4"
CUFF HEMLINE
FOLD
FACING
1 3/16"
1 3/16"

STEP 26

DEVELOPING THE TOP SLEEVE LINING

- Following the instructions on page 50, trace off the top sleeve pattern onto a separate piece of paper.
- Remove 3⁄8in from the lower edge of the sleeve, leaving a 3⁄4in facing.
- From the back shoulder tip measure out 3⁄16in and up 3⁄16in and mark.
- From the front shoulder tip measure out 3⁄16in and up 3⁄16in and mark.
- Using the sleeve cap shape as a template, join these points at the cap with a curved line.
- From the new shoulder tips redraw the lines down to blend in with the new sleeve hemline.

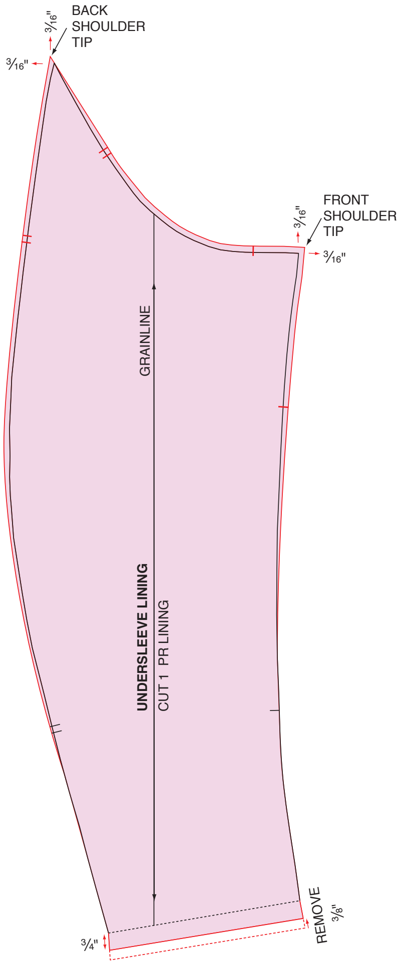


3⁄16"
TOP OF SLEEVE CAP
BACK SHOULDER TIP
3⁄16"
GRAINLINE
FRONT SHOULDER TIP
3⁄16"
3⁄16"
TOP SLEEVE LINING
CUT 1 PR LINING
3⁄4"
REMOVE
3⁄8"

STEP 27

DEVELOPING THE UNDER SLEEVE LINING

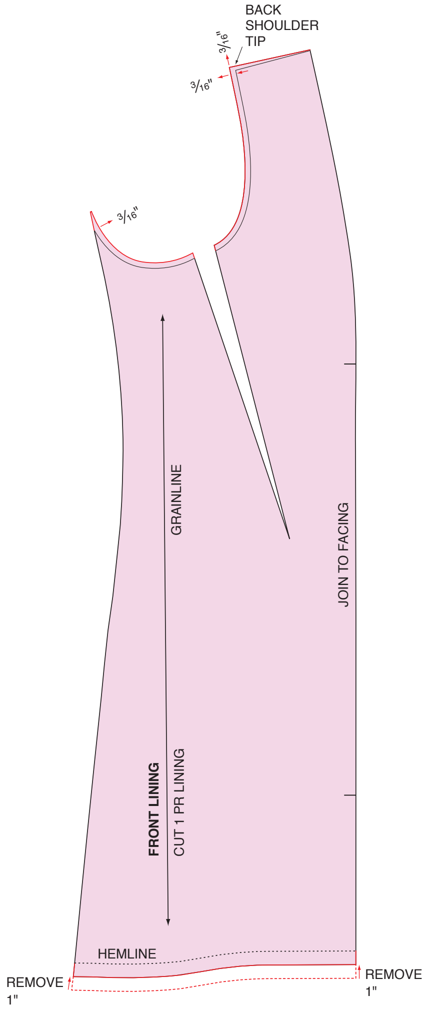
- Following the instructions on page 50, trace off the undersleeve pattern onto a separate piece of paper.
- Remove 3⁄8in from the lower edge of the sleeve, leaving a 3⁄4in facing.
- From the front shoulder tip measure out 3⁄16in and up 3⁄16in and mark.
- From the back shoulder tip measure up 3⁄16in and then out 3⁄16in and mark.
- Join these points along the underarm with a curved line.
- From the new shoulder tips redraw the lines down to blend in with the new sleeve hem.



3⁄16"
BACK SHOULDER TIP
3⁄16"
3⁄16"
FRONT SHOULDER TIP
3⁄16"
GRAINLINE
UNDERSLEEVE LINING
CUT 1 PR LINING
REMOVE
3⁄8"
3⁄4"

STEP 28
DEVELOPING THE FRONT BODY LINING

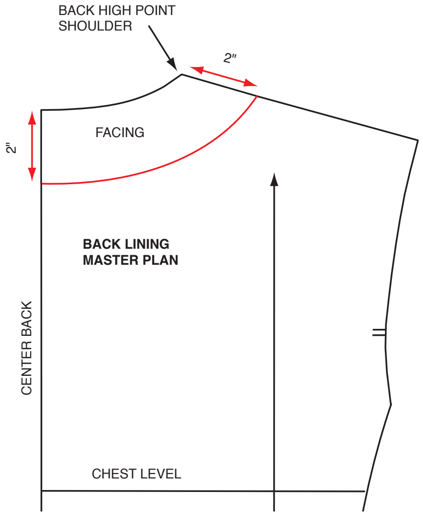
- Following the instructions on page 50, trace off a copy of the front body panel without the facing.
- Remove 1in from the lower edge of the hem allowance.
- From the shoulder tip square out and up $\frac{3}{16}$in, find the new shoulder tip, and blend back to the front facing line along the shoulder.
- From the top of the front style line, measure $\frac{3}{16}$in out into the armhole and continue this line and the style line up to a point and mark where they intersect.
- Join this point with the new shoulder tip by drawing a curved line following the shape of the armhole.


BACK
SHOULDER
TIP
3/16"
3/16"
3/16"
GRAINLINE
JOIN TO FACING
FRONT LINING
CUT 1 PR LINING
HEMLINE
REMOVE
1"
REMOVE
1"

STEP 29
DEVELOPING THE BACK NECK FACING

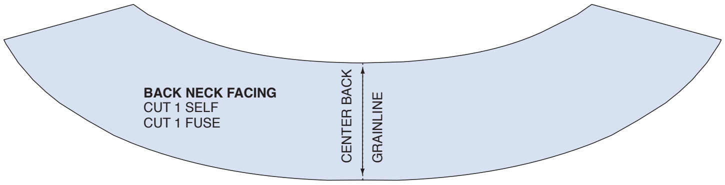
> **Back neck facing**
> The back neck facing is added to give strength and to stabilize the collar. It is connected to the front facing at the shoulder and is cut from facing fabric and fused.
>
> Here it is illustrated as a half pattern to be traced off before you make the adaptations for the ease in the lining.

- Following the instructions on page 50, trace the left back pattern onto a separate piece of paper. Measure 2in down the center back and 2in down the shoulder seam from the high point shoulder. Connect these points with a curve following the shape of the neckline.


BACK HIGH POINT
SHOULDER
2"
2"
FACING
BACK LINING
MASTER PLAN
CENTER BACK
CHEST LEVEL

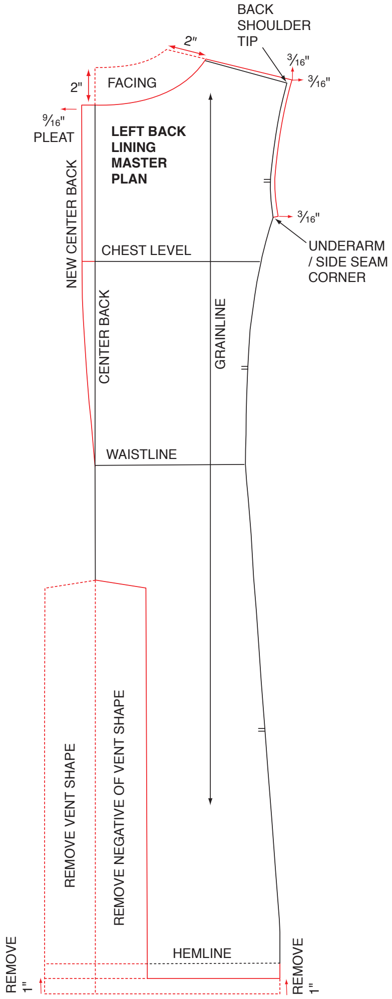
STEP 30
BACK NECK FACING PATTERN

- Trace off the back neck facing onto a new piece of paper and, following the instructions on page 50, create the full pattern shape.


BACK NECK FACING
CUT 1 SELF
CUT 1 FUSE
CENTER BACK
GRAINLINE

STEP 31
DEVELOPING THE LEFT BACK BODY LINING

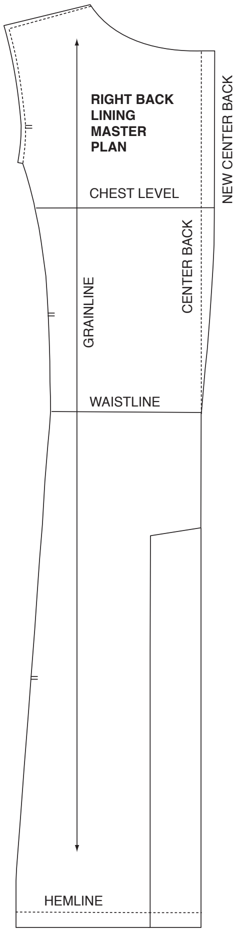
- Using the tracing of the back pattern on which you drew the neck facing, create half of the back lining pleat to introduce ease. From the center back measure out 9⁄16in below the facing line and mark, and from the chest level measure out 9⁄16in and mark. Join these two points and then blend the line back to the original center back line at the waist with a slight curve. Notch the center back along this new line.
- From the shoulder tip measure out 3⁄16in and up 3⁄16in and find the new shoulder tip. Draw a straight line back to the outer edge of the neck facing.
- At the underarm / side seam corner square out 3⁄16in. Join this point back to the new shoulder tip using a curved line following the original armhole shape.
- Because the vent on the left side of the back pattern is folded in when constructed, remove the vent shape from the lining together with a negative of the vent shape in the back panel lining itself.
- Remove 1in from the lower edge of the hem allowance. This will leave enough fabric to allow for an overlap, or ease, in the lining at the hem.


BACK SHOULDER TIP
2"
3⁄16"
3⁄16"
2"
FACING
9⁄16" PLEAT
LEFT BACK LINING MASTER PLAN
NEW CENTER BACK
3⁄16"
UNDERARM / SIDE SEAM CORNER
CHEST LEVEL
CENTER BACK
GRAINLINE
WAISTLINE
REMOVE VENT SHAPE
REMOVE NEGATIVE OF VENT SHAPE
HEMLINE
REMOVE 1"
REMOVE 1"

STEP 32

DEVELOPING THE RIGHT BACK LINING

- Trace off the right back panel pattern from the left back panel pattern you have just developed and reverse.
- Add the negative vent shape back into the pattern to create a straight center back line.
- As you are still working on a left back panel shape, you need to turn it over before adding the annotations for the right back lining.

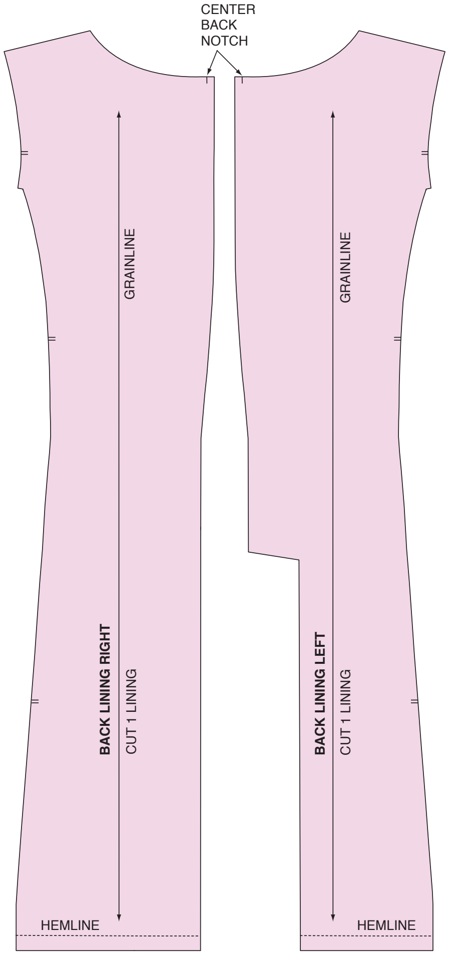


RIGHT BACK LINING MASTER PLAN
NEW CENTER BACK
CHEST LEVEL
CENTER BACK
GRAINLINE
WAISTLINE
HEMLINE

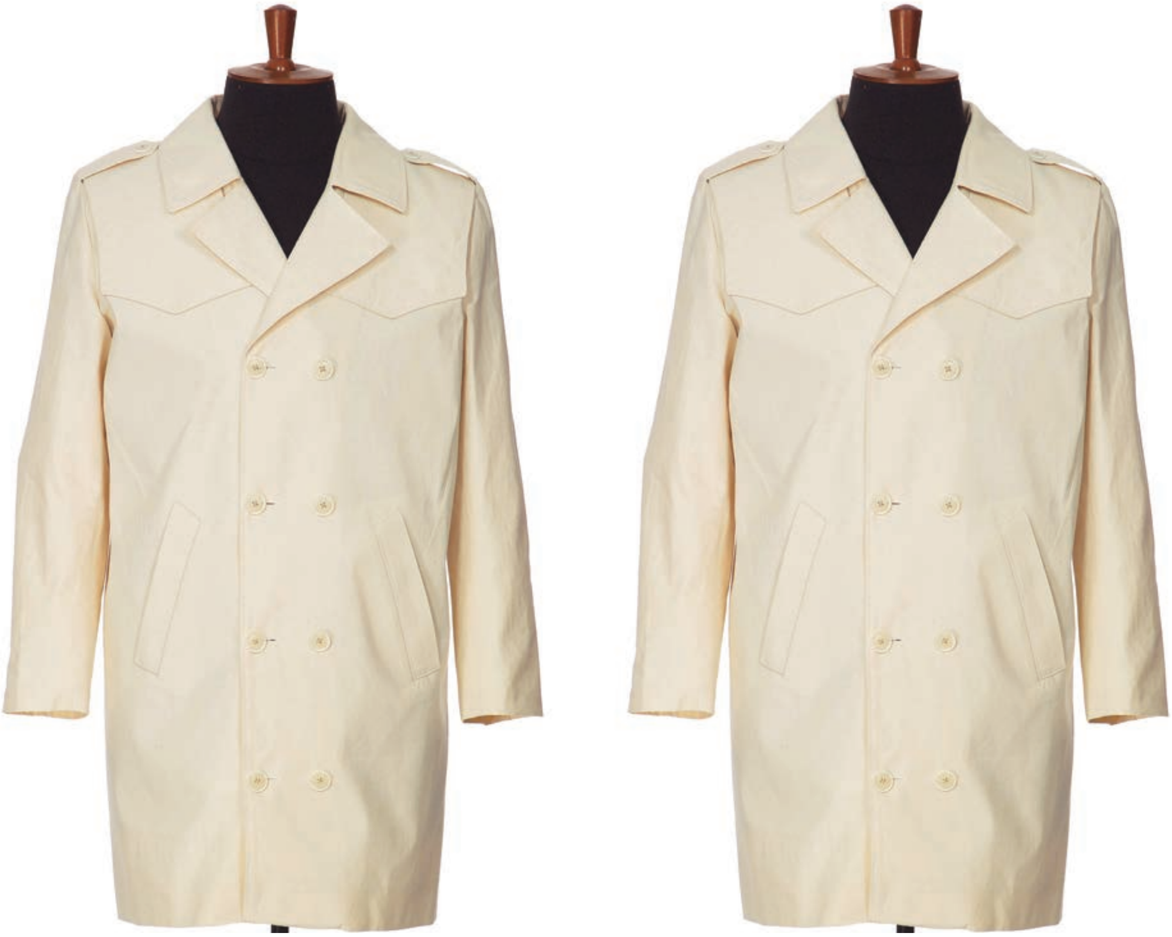
STEP 33

BACK LINING PATTERNS

- Following the instructions on page 50, trace off the back panel lining patterns.

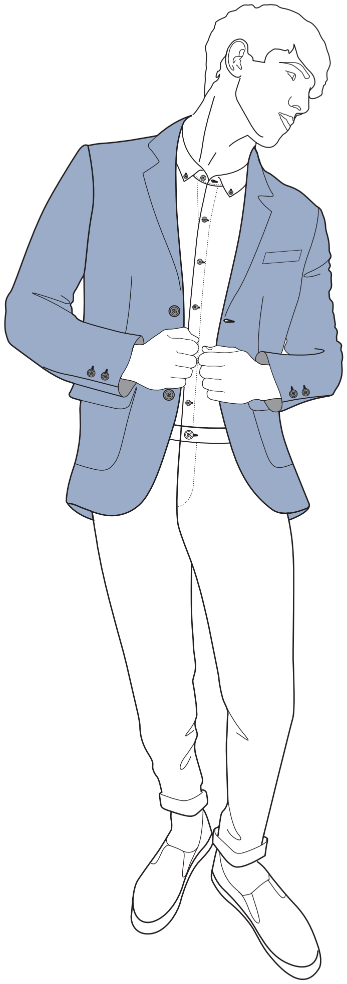


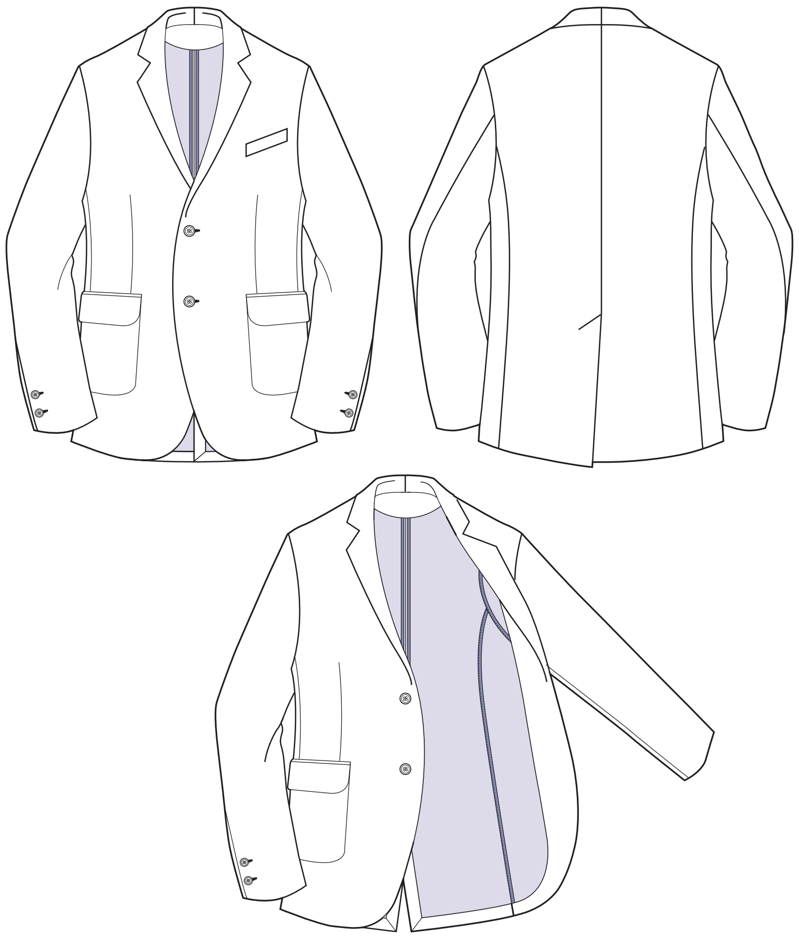
CENTER BACK NOTCH
GRAINLINE
GRAINLINE
BACK LINING RIGHT
CUT 1 LINING
BACK LINING LEFT
CUT 1 LINING
HEMLINE
HEMLINE



PATTERN

SINGLE-BREASTED JACKET





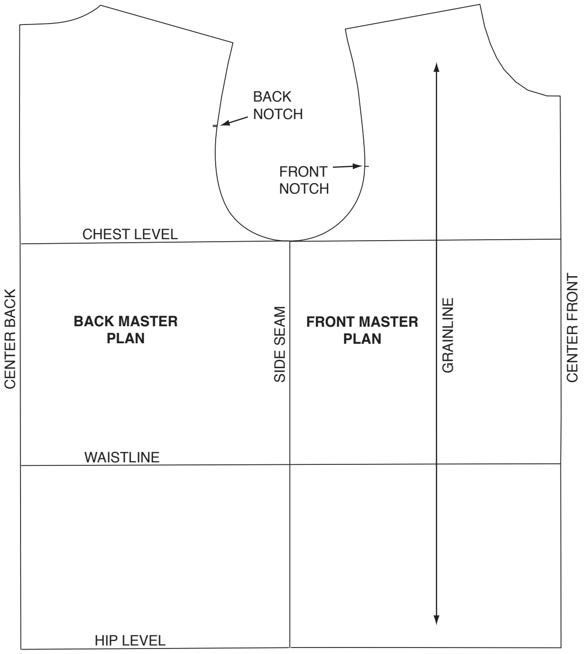
This pattern includes development of the following features:

Shaping the body panels and creating a side panel
Extending the front and shaping the breast with added volume
Extending the hemline
Creating a center back vent
Moving the shoulder slope toward the back
Creating a welted breast pocket
Developing a patch pocket with flap
Developing a roll collar with lapel
Developing a tailored two-piece sleeve with cuff vent
Developing taped internal seams with no lining

STEP 1

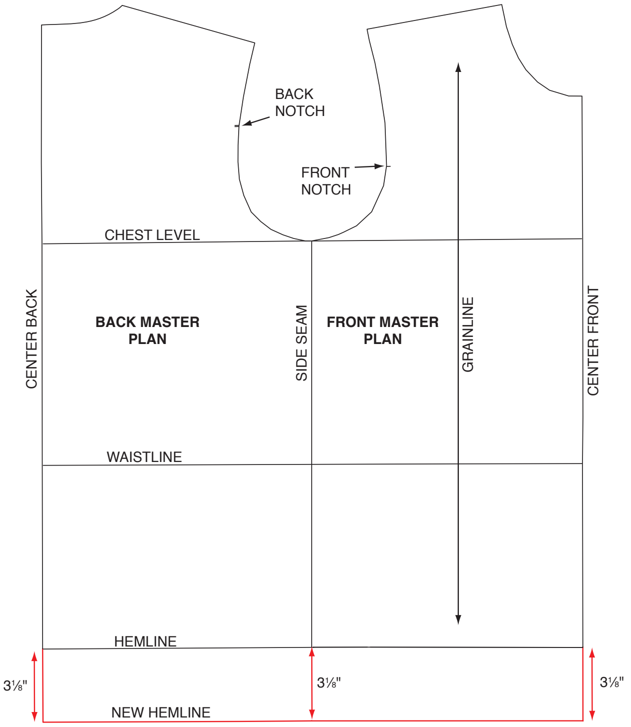
DEVELOPING THE MASTER PLAN

Start by selecting the basic men's upper body sloper, or by drafting the basic sloper according to the instructions on page 40. Cut a large piece of drafting paper slightly longer than the length of the shirt you want to develop and transfer the shape of the sloper and all marks, labels, and instructions, following the directions on page 48.


BACK NOTCH
FRONT NOTCH
CHEST LEVEL
CENTER BACK
BACK MASTER PLAN
SIDE SEAM
FRONT MASTER PLAN
GRAINLINE
CENTER FRONT
WAISTLINE
HIP LEVEL

STEP 2
DEVELOPING THE HEMLINE

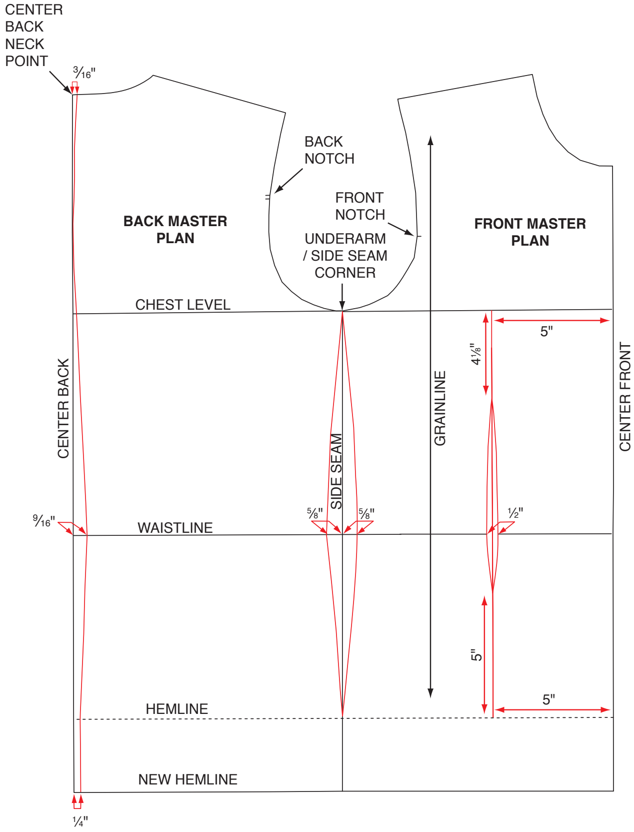
- From the hemline square down 3⅛in at the center front, side seam, and center back lines.
- Join these three points with a straight horizontal line.


BACK NOTCH
FRONT NOTCH
CHEST LEVEL
CENTER BACK
BACK MASTER PLAN
SIDE SEAM
FRONT MASTER PLAN
GRAINLINE
CENTER FRONT
WAISTLINE
HEMLINE
3⅛"
3⅛"
3⅛"
NEW HEMLINE

STEP 3
DEVELOPING THE INTERNAL SHAPING

When determining suit panel sizes it is important to do some market research, investigating similar garments and comparing measurements with the style you may be developing. Use your fit model or form to gain the correct proportions for the paneling as this will ultimately affect the balance of the jacket.

- To create the front internal dart, at the center front chest, waist, and original hemlines square in 5in and mark.
- From the chest level mark square down 4⅛in, and from the hemline mark square up 5in; these two points are the ends of the dart.
- From the waistline mark measure out ¼in to each side, making the dart width ½in.
- Connect all these points with curved lines.
- For the center back shaping: from the center back, measure in ¼in at the new hemline and the original hemline; at the waistline measure in 9/16in, and at the center back neck point measure in 3/16in.
- From the chest level draw a curved line up to meet the new center back neck point and then down to join the new point on the waistline, then down farther to connect the points on the hemlines.
- Taking volume from the side seam gives a fitted silhouette and will also help you to develop the side panel. From the side seam at the waistline measure out ⅝in in each direction and mark. Connect these two points with a curved line up to the underarm and down to the original hemline.


CENTER BACK NECK POINT
3/16"
BACK NOTCH
FRONT NOTCH
UNDERARM / SIDE SEAM CORNER
BACK MASTER PLAN
FRONT MASTER PLAN
CHEST LEVEL
5"
4⅛"
CENTER BACK
SIDE SEAM
GRAINLINE
CENTER FRONT
9/16"
⅝"
⅝"
½"
WAISTLINE
5"
5"
HEMLINE
NEW HEMLINE
¼"

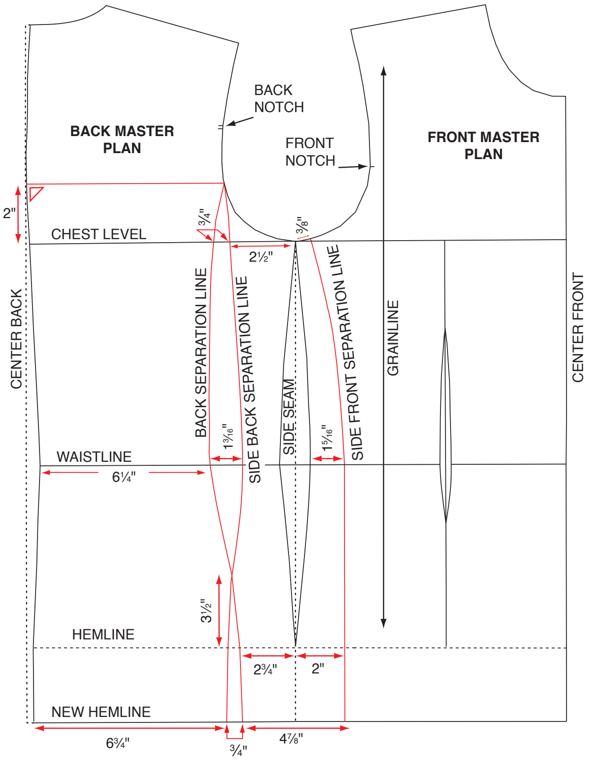
STEP 4

DEVELOPING THE SIDE PANEL

Side panels

On the front and back slopers you are going to create style lines that will separate the panel into front, side, and back, as in the classic three-piece suit. In the previous step you took away volume from the side seam back and front. To create the side panel you need to combine these to gather and redraw them as a single shape. Having removed volume at the side seam, you then need to remove additional volume from the back panel, to finish the fitted shape of the jacket. You do this between the new back and side panel.

- Start with the front style line: from the center back measure 6¾in along the new hemline toward the center front and mark; continue measuring ¾in and mark, and a further 4⅞in and mark. These points are the ends of the three new shaping lines.
- From the new side seam measure 1 5⁄16in toward the front along the waistline and mark; from the underarm / side seam corner measure ⅜in along the armhole toward the front and mark; from the side seam measure 2in along the old hemline toward the front and mark.
- Join the marks at the new and the old hemlines to the waistline mark with a straight line and continue up to the chest and front armhole with a graduated curve; this is the side front style line, which separates the new side panel from the front panel.
- To create the back style lines, from the center back measure 6¼in along the waistline and mark, and then a further 1 3⁄16in and mark.
- From the underarm / side seam corner measure 2½in toward the center back and mark, and a further ¾in and mark.
- The back style lines start from a point on the back armhole below the notch; to find this measure 2in from the chest level up the center back and then square across to the back armhole and mark.
- From this point draw the back style lines, intersecting the chest and waist at the marks you made earlier, crossing over each other 3½in above the original hemline and continuing down to the new hem in a straight line.


BACK NOTCH
BACK MASTER PLAN
FRONT NOTCH
FRONT MASTER PLAN
2"
CHEST LEVEL
¾"
⅜"
2½"
CENTER BACK
BACK SEPARATION LINE
SIDE BACK SEPARATION LINE
SIDE SEAM
SIDE FRONT SEPARATION LINE
GRAINLINE
CENTER FRONT
1 3⁄16"
1 5⁄16"
WAISTLINE
6¼"
3½"
HEMLINE
2¾"
2"
NEW HEMLINE
6¾"
¾"
4⅞"

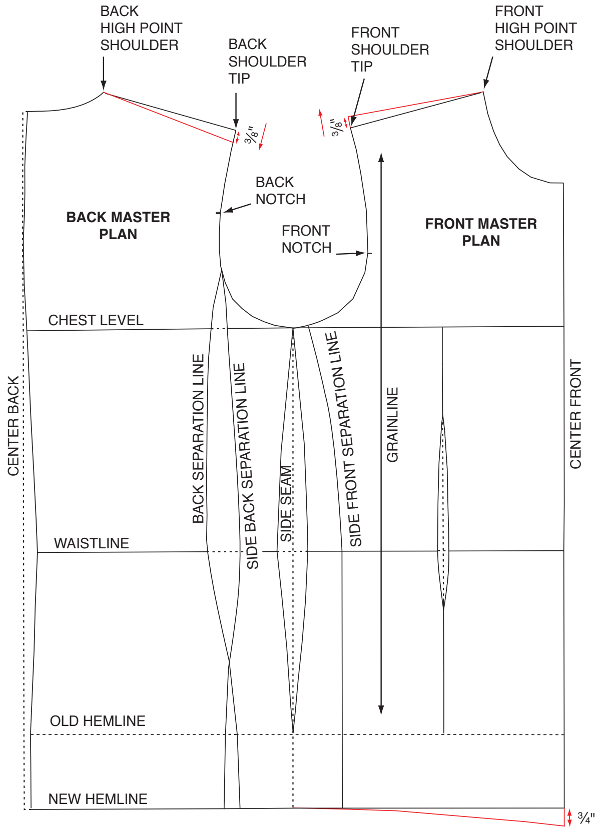
STEP 5

DEVELOPING THE NEW SHOULDER SLOPE AND FRONT HEM STYLING

Shoulder slope

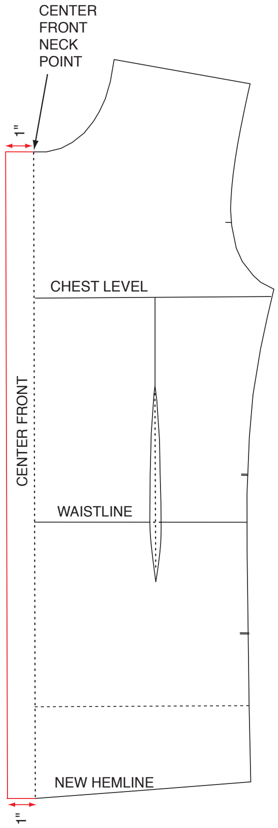
Move the angle of the shoulder seam before you open up the front: This will prevent the shoulder seam from being seen from the front, giving a seamless silhouette.

- From the back shoulder tip measure $^3/_8$in down the armhole and mark; from the front shoulder tip extend the armhole up $^3/_8$in and mark. From these two new points draw in the new shoulder seams back up to the high point shoulders.
- To add style shaping to the center front hem, measure $^3/_4$in down from the hemline at the center front and connect back to the side seam with a smooth curve.


BACK HIGH POINT SHOULDER
BACK SHOULDER TIP
FRONT SHOULDER TIP
FRONT HIGH POINT SHOULDER
3⁄8"
3⁄8"
BACK NOTCH
BACK MASTER PLAN
FRONT NOTCH
FRONT MASTER PLAN
CHEST LEVEL
CENTER BACK
BACK SEPARATION LINE
SIDE BACK SEPARATION LINE
SIDE SEAM
SIDE FRONT SEPARATION LINE
GRAINLINE
CENTER FRONT
WAISTLINE
OLD HEMLINE
NEW HEMLINE
3⁄4"

STEP 6
DEVELOPING THE FRONT EXTENSION

- Trace off the front panel onto a separate piece of paper and, following the instructions on page 50, reverse the shape to create the left-hand side panel, which will eventually also contain the breast pocket shape.
- Extend out 1in horizontally from the center front neck point and at the hem; connect these points with a straight line to create the front extension.

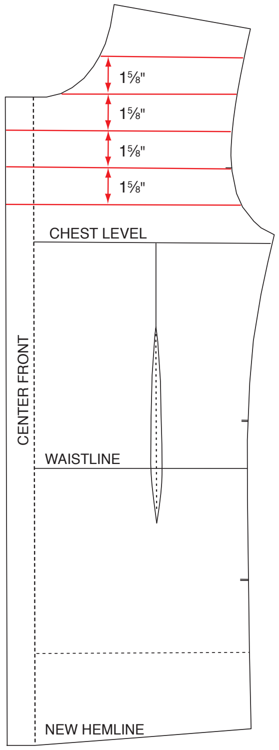

CENTER FRONT NECK POINT
1"
CHEST LEVEL
CENTER FRONT
WAISTLINE
NEW HEMLINE
1"

STEP 7
DEVELOPING THE FRONT BREAST SHAPING

Lapel shape

Pitching back and opening the front breast shape will enable the straight sloper front to follow the contours of a male chest.

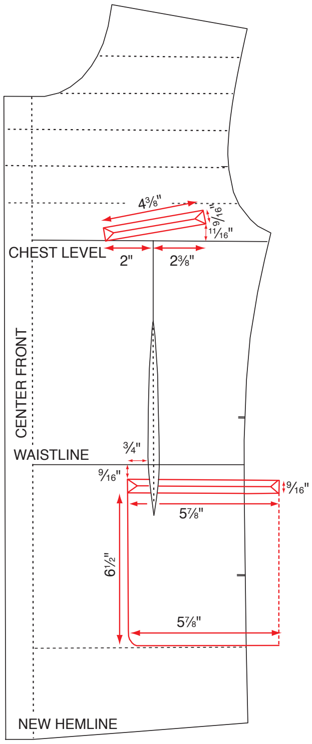
- From the chest level measure up 1⅝in and square a line across; repeat four times.


1⅝"
1⅝"
1⅝"
1⅝"
CHEST LEVEL
CENTER FRONT
WAISTLINE
NEW HEMLINE

STEP 8

DEVELOPING THE WELTED BREAST AND PATCH POCKETS

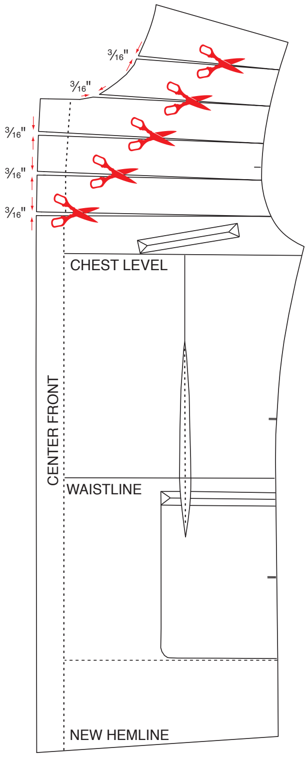
- For the breast pocket placement, from the top of the waist dart measure 2in along the chest level toward the center front; this will be the bottom corner of the rectangular welt opening.
- Measure $2\frac{3}{8}$in in the opposite direction and mark; from this point square up $\frac{11}{16}$in; this is the opposite corner of the rectangle.
- Join these points with an $4\frac{3}{8}$in straight line, square up $\frac{9}{16}$in at each end, and draw a rectangular box.
- The patch pocket runs off the front panel into the side panel and covers the waist dart; when plotting the pocket measurement do not include the dart width.
- From the waist dart measure $\frac{3}{4}$in along the waistline toward the center front, and from this point square down $\frac{9}{16}$in and mark; this is the starting point for the pocket depth.
- Measure down another $\frac{9}{16}$in for the welt opening, then measure down a further $6\frac{1}{2}$in (the pocket depth).
- The pocket width is $5\frac{7}{8}$in, which will run over onto the side panel.
- Round off the bottom corners of the pocket.



STEP 9

ADDING IN THE VOLUME ON THE FRONT BREAST PANEL

- Cut along the horizontal lines you drew across the chest and neck from the center front and neck into the shoulder; open each $\frac{3}{16}$in upward at the front, creating a wedge shape, adding in a total of $\frac{15}{16}$in.
- Tape against another piece paper and redraw the front panel, blending through the open steps.

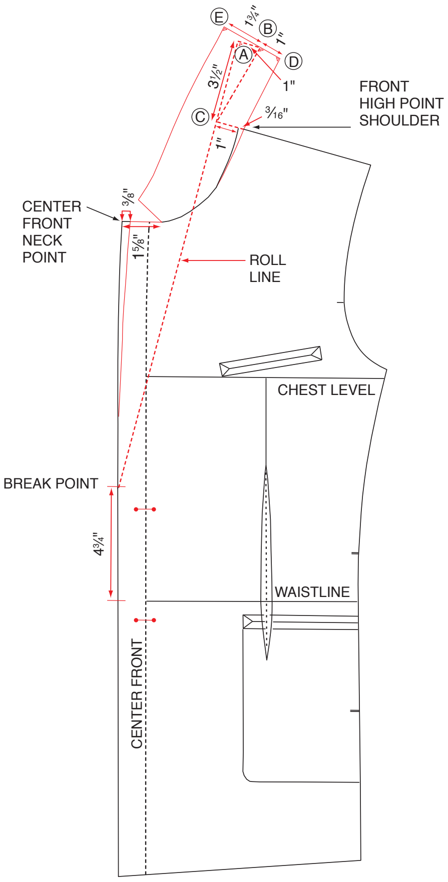


STEP 10
DEVELOPING THE ROLL COLLAR

Break point and roll line

Locate on the pattern where you want your collar to break on the new front edge line of the body panel. Consider the proportion of your design and silhouette length. The point at which the front will turn over to create a lapel is called the break point (BP) and the line that it turns on is the roll line. The lower down the front your BP is, the wider an opening you will have around the neck silhouette.

- From the front high point shoulder measure out 1in and mark point (C).
- You will run the roll line through point (C); from the waistline measure 4¾in up the front, mark and name as the *break point*.
- Draw a straight line from here up through (C), continue for 3½in and mark point (A).
- From (A) square 1in back toward the shoulder and mark point (B).
- Draw a line from (B) to (C); square out 1in from the top of this line and mark point (D).
- From (B) extend the line out 1¾in and mark point (E). This is the width of the collar (2¾in) at the center back neck curve.
- From (E), starting at a right angle, draw out the collar shape that you require, finishing the collar notch 1⅝in in from the extended front.
- To shape the front of the jacket lapel, measure in ⅜in from the center front neck point. From this point draw a graduated line back down the center front to give shape.
- From (D) draw a line back toward the shoulder line, crossing it 3⁄16in back from the front high point shoulder, and blend in to the curved neck shape.

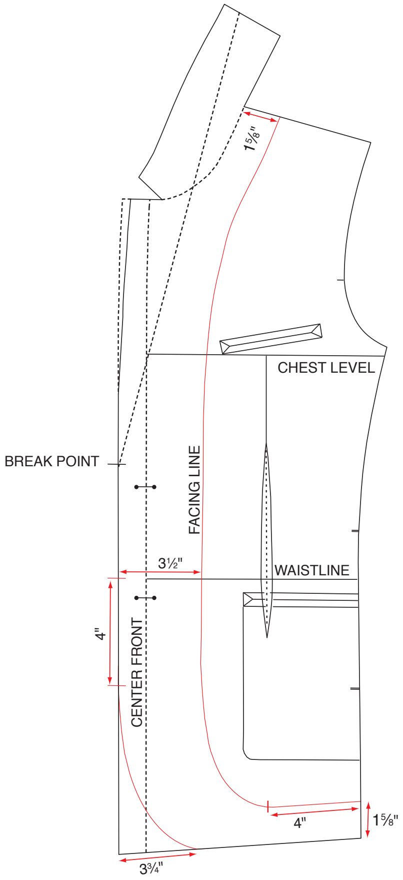


Checking the shape

It is always important to check the shape you have created by folding back the paper on the roll line to assess it; redraw and develop until you are satisfied. The sequence above is a method widely used to draft a basic tailored collar. Variations can be found in many patternmaking books available, old and new; choose the one that you prefer.

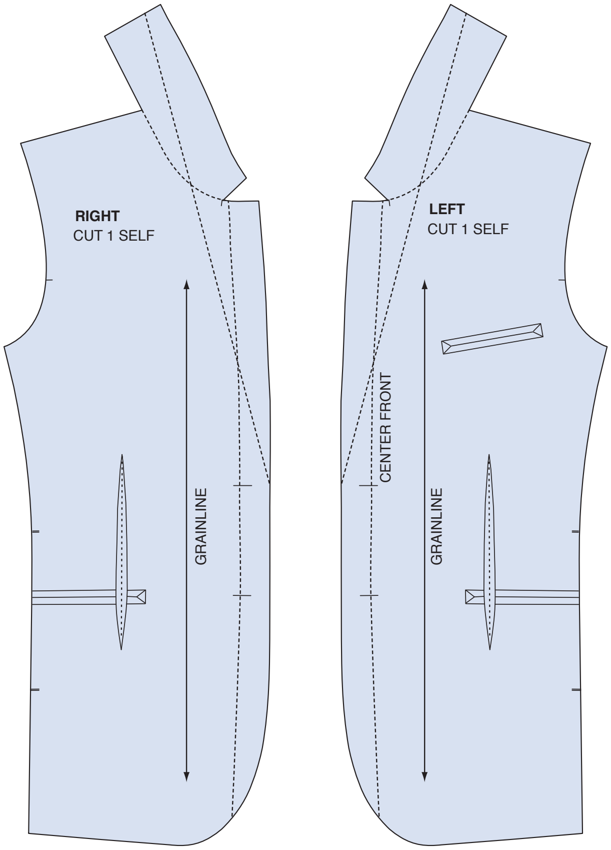
STEP 11
DEVELOPING THE FACING

- From the collar measure back 1⅝in along the shoulder seam; this is the width of the facing.
- From the jacket front measure in 3½in along the waistline and mark, and measure in 3¾in along the hemline and mark.
- From the waistline measure 4in down the front edge of the jacket and continue down to the point you marked on the hemline with a deep curve; this is the lower front jacket shaping.
- From the hemline measure 1⅝in up the side seam and from here square in 4in; from this point draw a graduated curve up to meet the point you marked on the waistline, continue up in a straight line to the chest level, and blend back to the shoulder with another curved line.


1⅝"
CHEST LEVEL
BREAK POINT
FACING LINE
3½"
WAISTLINE
4"
CENTER FRONT
4"
1⅝"
3¾"

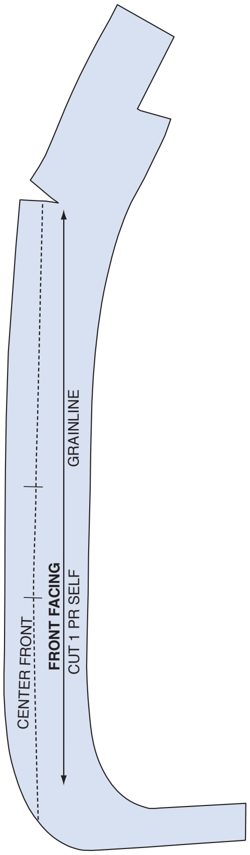
STEP 12
FINAL FRONT PATTERN

- Following the instructions on page 50, trace off the left and right front panels.
- Mark the breast pocket on the left side only, and the patch pocket position on both sides.


RIGHT
CUT 1 SELF
GRAINLINE
LEFT
CUT 1 SELF
CENTER FRONT
GRAINLINE

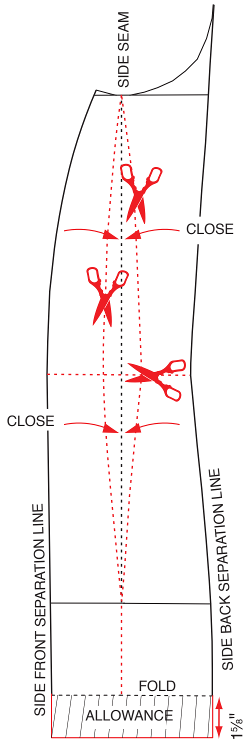
STEP 13
FRONT FACING PATTERN

- Following the instructions on page 50, trace off the front facing pattern.


CENTER FRONT
FRONT FACING
CUT 1 PR SELF
GRAINLINE

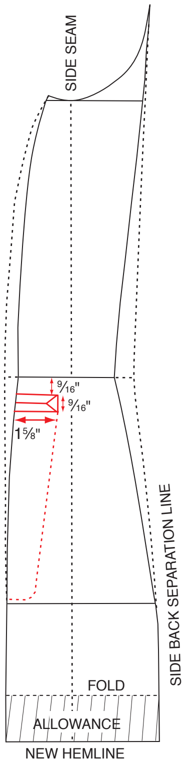
STEP 14
DEVELOPING THE SIDE PANEL AND HEM ALLOWANCE

- Following the instructions on page 50, trace off the side panel onto a separate piece of paper.
- Next you need to remove the internal volume by closing the dart shapes in the side seam. Cut down both sides of the side seam to the bottom of the shaping and out along the waistline, making sure to leave the shapes connected by a sliver of paper at the edges so that the side lengths do not change when manipulated.
- Reposition by closing up the shape and tape together.
- Measure 1⅝in down on both sides at the hemline and square across to create a rectangular box; this is the hem allowance.


SIDE SEAM
CLOSE
CLOSE
SIDE FRONT SEPARATION LINE
SIDE BACK SEPARATION LINE
FOLD
ALLOWANCE
1⅝"

STEP 15
COMBINING THE SIDE PANEL

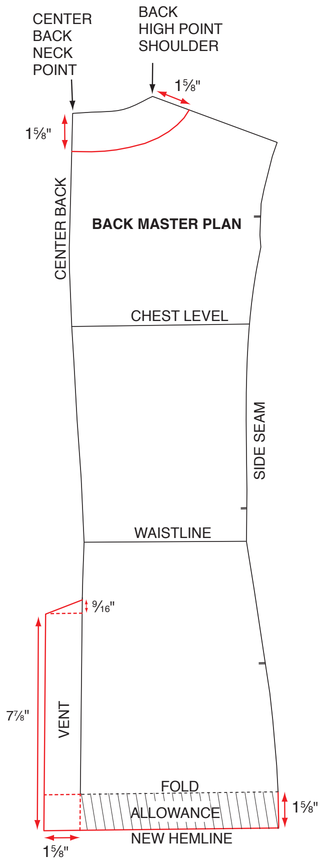
- Trace off the closed side panel onto a separate piece of paper.
- Match up the front panel at the waist and hemlines to the new side panel at the side front style line.
- Transcribe across the position for the remainder of the welted opening for the patch pocket.


SIDE SEAM
9⁄16"
9⁄16"
1⅝"
SIDE BACK SEPARATION LINE
FOLD
ALLOWANCE
NEW HEMLINE

STEP 16

DEVELOPING THE CENTER BACK VENT AND BACK NECK FACING

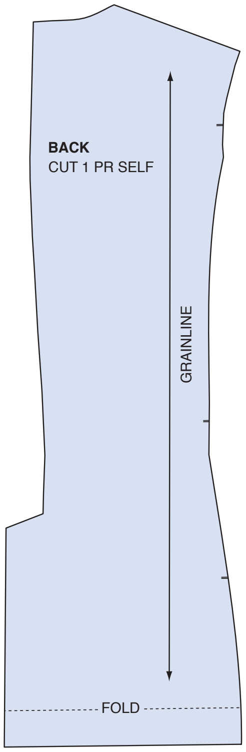
- Following the instructions on page 50, trace off the back panel onto a separate piece of paper.
- From the hemline at the center back and side seams square down $1\frac{5}{8}$in and square across to form a rectangle, extending it $1\frac{5}{8}$in past the center back; this is the hem allowance.
- From the bottom of the hem allowance measure up $7\frac{7}{8}$in and then square back into the center back. From this point measure up $\frac{9}{16}$in on the center back and draw an angled line back to the top corner of the vent shape.
- The center back neck facing is $1\frac{5}{8}$in in width to match the front; measure $1\frac{5}{8}$in down from the center back neck point and $1\frac{5}{8}$in down the shoulder from the back high point shoulder and connect these two points with a curved line.


CENTER
BACK
NECK
POINT
BACK
HIGH POINT
SHOULDER
1⅝"
1⅝"
CENTER BACK
BACK MASTER PLAN
CHEST LEVEL
SIDE SEAM
WAISTLINE
⁹⁄₁₆"
7⅞"
VENT
FOLD
ALLOWANCE
1⅝"
NEW HEMLINE
1⅝"

STEP 17

BACK PATTERN

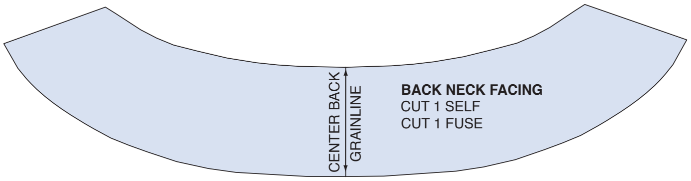
- Following the instructions on page 50, trace off the back panel pattern.


BACK
CUT 1 PR SELF
GRAINLINE
FOLD

STEP 18

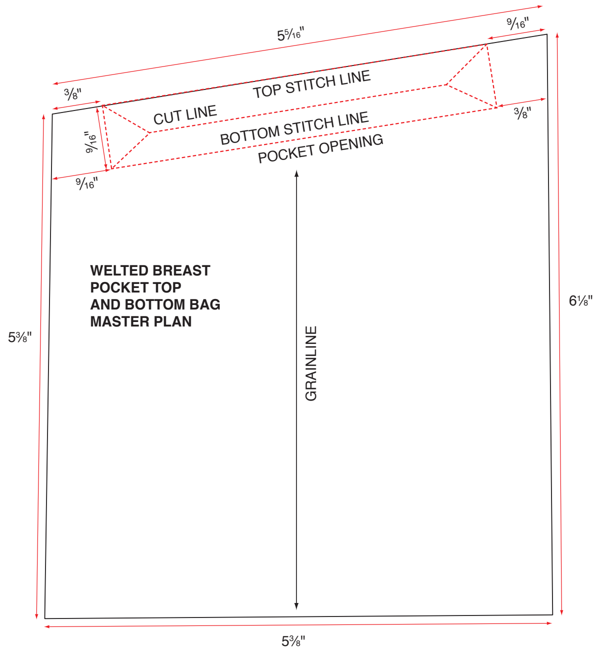
BACK NECK FACING PATTERN

- Trace off the back neck facing onto a separate piece of paper and, following the instructions on page 50, create the full pattern shape.


CENTER BACK
GRAINLINE
BACK NECK FACING
CUT 1 SELF
CUT 1 FUSE

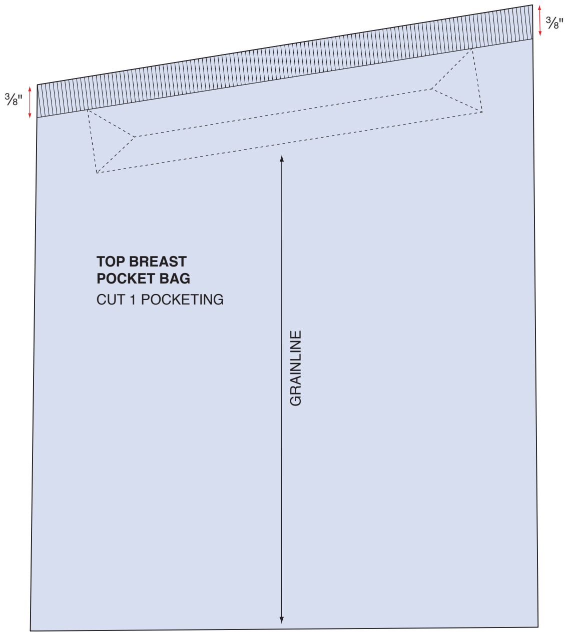
STEP 19
DEVELOPING THE WELTED BREAST POCKET TOP AND BOTTOM BAG

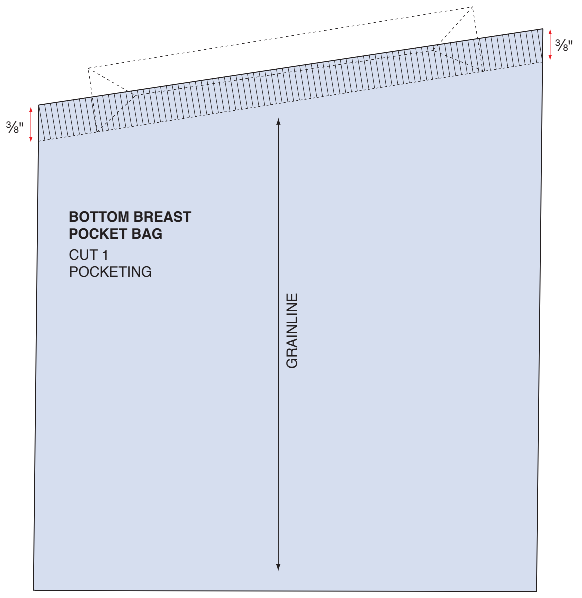
- From the front left final pattern in Step 12, trace off the breast pocket opening onto a separate piece of paper so that you have a rectangle $4\frac{3}{8}$in long by $\frac{9}{16}$in wide drawn at an angle to the grainline.
- Extend the top stitch line by $\frac{9}{16}$in to the right and $\frac{3}{8}$in to the left, and extend the bottom stitch line by $\frac{9}{16}$in to the left and $\frac{3}{8}$in to the right.
- Connecting these points on the left, draw a $5\frac{3}{8}$in vertical line down. Connecting the points on the right, draw a $6\frac{1}{8}$in vertical line down. Square across $5\frac{3}{8}$in at the bottom to connect these two lines (the width of the pocket bag).


5 5/16"
9/16"
3/8"
TOP STITCH LINE
CUT LINE
3/8"
9/16"
BOTTOM STITCH LINE
POCKET OPENING
9/16"
WELTED BREAST
POCKET TOP
AND BOTTOM BAG
MASTER PLAN
GRAINLINE
5 3/8"
6 1/8"
5 3/8"

STEP 20
BREAST POCKET BAG PATTERNS

- Following the instructions on page 50, trace off the pocket bag shape and add a $\frac{3}{8}$in seam allowance above the top stitch line to create the final top pocket bag pattern.
- Trace off the pocket bag shape again as far as the bottom stitch line, then add a $\frac{3}{8}$in seam allowance on top of the stitch line to create the final bottom pocket bag pattern.


3/8"
3/8"
TOP BREAST
POCKET BAG
CUT 1 POCKETING
GRAINLINE

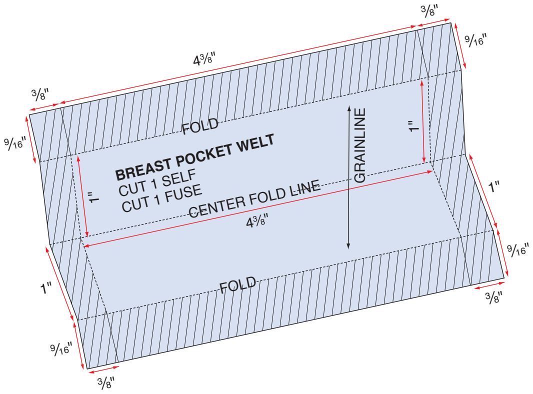

3/8"
3/8"
BOTTOM BREAST
POCKET BAG
CUT 1
POCKETING
GRAINLINE

STEP 21
DEVELOPING THE BREAST POCKET WELT

Welts

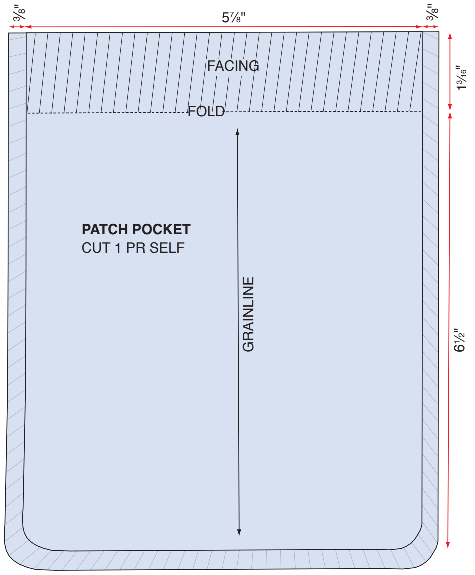
If your welted pocket is angled then the welt's shape will need to reflect this. Welts can be the same size or larger than pocket openings and are doubled over so they have two layers of fabric, with a fusing layer in between for rigidity.

- From the front left pattern in Step 12, trace one long side of the breast pocket opening onto a separate piece of paper so that you have a line $4\frac{3}{8}$in long at the same angle as the breast pocket itself. This will become the center fold line. Copy the direction of the grainline across, too.
- Parallel to the grainline, draw 1in lines up from both ends of the line and mark. Connect these marks to create a parallelogram.
- Mirror this parallelogram along the fold line.
- Add a $\frac{9}{16}$in seam allowance to both long sides of the shape and a $\frac{3}{8}$in allowance to the shorter sides.


3/8"
9/16"
4 3/8"
3/8"
9/16"
FOLD
BREAST POCKET WELT
CUT 1 SELF
CUT 1 FUSE
CENTER FOLD LINE
4 3/8"
GRAINLINE
1"
1"
1"
1"
9/16"
FOLD
3/8"
9/16"
3/8"

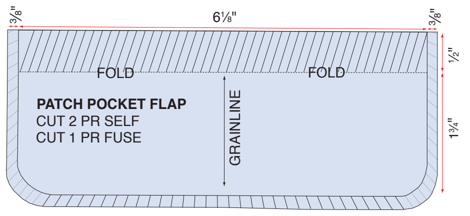
STEP 22
DEVELOPING THE FINAL PATCH POCKET

- On a separate piece of paper draw a rectangular box $5\frac{7}{8}$in wide by $7\frac{5}{8}$in tall.
- From the top measure $1\frac{3}{16}$in down each side and square across with a broken line, naming it *fold*; this will become the facing for the pocket bag.
- Round off both bottom corners and add a $\frac{3}{8}$in seam allowance to create the final pattern.


3/8"
5 7/8"
3/8"
FACING
FOLD
1 3/16"
PATCH POCKET
CUT 1 PR SELF
GRAINLINE
6 1/2"

STEP 23
DEVELOPING THE FINAL PATCH POCKET FLAP

- On a separate piece of paper draw a rectangular box $6\frac{1}{8}$in wide by $2\frac{1}{4}$in tall.
- From the top measure $\frac{1}{2}$in down each side and square across with a broken line, naming it *fold*; this will be sewn in to the welt opening construction.
- Round off both bottom corners and add a $\frac{3}{8}$in seam allowance to create the final pattern.


3/8"
6 1/8"
3/8"
FOLD
FOLD
1/2"
PATCH POCKET FLAP
CUT 2 PR SELF
CUT 1 PR FUSE
GRAINLINE
1 3/4"

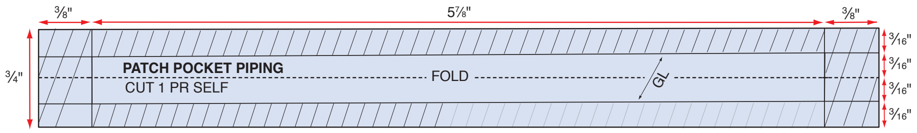
STEP 24

DEVELOPING THE PATCH POCKET PIPING

Piping

The piping is sewn between the pocket flap as decoration to the opening. In this example it is only $\frac{3}{16}$in wide.

- On separate piece of paper, draw a horizontal box $5\frac{7}{8}$in long by $\frac{3}{4}$in wide to create a rectangular-shape for the piping.
- Divide the box in half lengthways, draw a line down the center, and label it *fold*.
- Add a $\frac{3}{16}$in seam allowance to both long sides and a $\frac{3}{8}$in seam allowance to each end to create the final pattern.



STEP 25

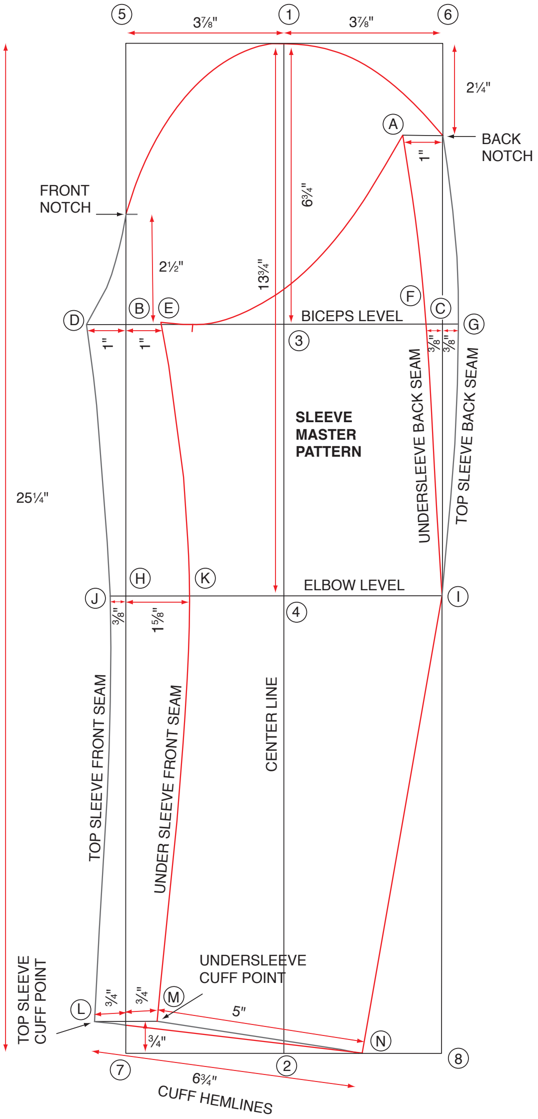
DEVELOPING THE TWO-PIECE TAILORED SLEEVE

Measurements required to develop the sleeve

- Armhole $20\frac{1}{4}$in + $\frac{3}{4}$in ease = 21in. (Take this measurement from the basic upper body sloper.)
- Sleeve length to wrist = $25\frac{1}{4}$in. (Take this from the shoulder tip, running down the back of the elbow to the wrist; extra length can be added at this point to suit your design.)
- Top of sleeve cap to elbow length = $13\frac{3}{4}$in.
- Upper biceps circumference = 16in. (This measurement is taken round the upper arm; extra width "ease" can be added for movement.)
- Cuff measurement = $11\frac{3}{4}$in. Remove $\frac{3}{4}$in as $\frac{3}{8}$in from each side to reduce the cuff width from the basic tapered sloper, which is $12\frac{5}{8}$in.
- Sleeve cap height = $6\frac{3}{4}$in.

- Cut a large piece of drafting paper slightly longer than the length of your sleeve or the arm length of your fit model.
- Draw a $25\frac{1}{4}$in vertical line down the center and label it *center line*; label the top of this line (1) and the bottom (2). This is the length of the sleeve.
- From (1) measure down $6\frac{3}{4}$in (the sleeve cap height, or one-third of the armhole measurement not including ease) and label point (3).
- From (1) measure down $13\frac{3}{4}$in (the elbow length) and label point (4).
- Divide the armhole measurement (21in) by 6 to give $3\frac{1}{2}$in and add $\frac{3}{8}$in ease to give $3\frac{7}{8}$in. From (1) square out $3\frac{7}{8}$in to the left and to the right and label these points (5) and (6).
- From (2) measure out $3\frac{7}{8}$in to the left and to the right and label these points (7) and (8).
- Connect all points (5), (6), (7), (8) to form a rectangle.
- Divide the sleeve cap length ($6\frac{3}{4}$in) by 3 to give $2\frac{1}{4}$in. From (6) measure down $2\frac{1}{4}$in, make a mark and label it *back notch*. From the back notch square in 1in and mark point (A); this is the top point of the back seam on the undersleeve.
- From (3) square out to the left to intersect the line from (5) to (7) and mark point (B), and square out to the right to intersect the line from (6) to (8) and mark point (C). This is the biceps level.
- From (B) measure out 1in and mark point (D), and measure in 1in and mark point (E). From (C) measure in $\frac{3}{8}$in and mark point (F), and measure out $\frac{3}{8}$in and mark point (G).
- To establish the front notch on the armhole divide the sleeve cap height ($6\frac{3}{4}$in) by 2 to give $3\frac{3}{8}$in, and subtract $\frac{7}{8}$in to give $2\frac{1}{2}$in. This will ensure a rectangular shape to the sleeve cap instead of the square shape that would occur if the sleeve cap were just divided in half. From (B) measure up $2\frac{1}{2}$in, make a mark and label it *front notch*.
- From (4) square out to the left to intersect the line from (5) to (7) and mark point (H), and square out to the right to intersect the line from (6) to (8) and mark point (I). This is the elbow level.
- From (H) measure out $\frac{3}{8}$in and mark point (J), and measure in $1\frac{5}{8}$in and mark point (K).

- From (7) measure up ¾in and from this point measure out ¾in and mark point (L); this is the top sleeve cuff point. Measure in ¾in and mark point (M); this is the undersleeve cuff point.
- The cuff circumference is 11¾in. Divide this between the top and undersleeve so that the top sleeve cuff width is 6¾in and the undersleeve is 5in. This allows the top sleeve seams to fall toward the back of the arm, slightly out of view.
- From (L) draw a line 6¾in long to intersect the line from (7) to (8) and mark point (N). From (M) draw a line 5in long to intersect the line from (7) to (8), also at point (N). These are the cuff hemlines.



5
3⅞"
1
3⅞"
6
2¼"
A
BACK NOTCH
1"
FRONT NOTCH
6¾"
2½"
13¾"
F
C
G
D
B
E
BICEPS LEVEL
3
1"
1"
⅜"
⅜"
SLEEVE MASTER PATTERN
UNDERSLEEVE BACK SEAM
TOP SLEEVE BACK SEAM
25¼"
J
H
K
ELBOW LEVEL
I
4
⅜"
1⅝"
TOP SLEEVE FRONT SEAM
UNDER SLEEVE FRONT SEAM
CENTER LINE
UNDERSLEEVE CUFF POINT
TOP SLEEVE CUFF POINT
L
¾"
¾"
M
5"
N
¾"
7
2
8
6¾"
CUFF HEMLINES

- Draw in the top sleeve front seam by drawing a blended line connecting the points from (L) through (J) to (D).
- Draw in the undersleeve front seam by drawing a blended line connecting the points from (M) through (K) to (E).
- Using a French curve, draw in the top sleeve cap starting at (D) with a concave curve through the front notch where you reverse the curve to a convex curve up to (1) and back down to the back notch with a similar convex curve.
- Measure the length of this line and compare it to the measurement of the armhole on the front and back patterns. Adjust the curves until the line is the same length as the armhole.
- Using a French curve, draw in the top of the undersleeve starting with a convex curve starting at (E) up to (A).
- Again, measure this line and adjust it until it is the same measurement as the armhole on the front and back patterns.
- Draw in the back seam of the top sleeve with a blended line from the back notch through points (G) to (I) and continue down to (N).
- Draw in the back seam of the undersleeve with a blended line from (A) through (F) to (I) and also continue with this seam on the same line as the top sleeve down to (N).

STEP 26

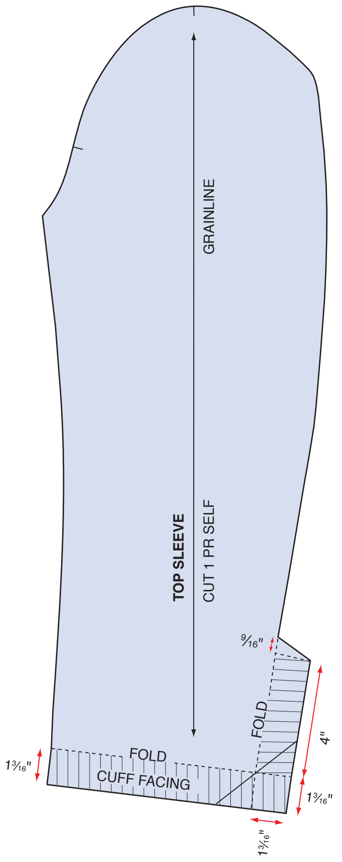
DEVELOPING THE FINAL TOP SLEEVE PATTERN WITH CUFF VENT

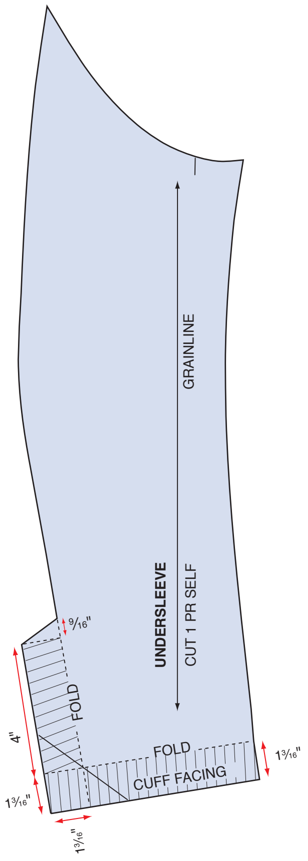
- Following the instructions on page 50, trace off the top sleeve onto a separate piece of paper.
- From the bottom of the sleeve measure down $1\frac{3}{16}$in and draw a rectangular box to create the facing strip.
- Extend the length of the cuff facing by $1\frac{3}{16}$in at the inner sleeve seam and square up 4in to create a rectangular box $1\frac{3}{16}$in in width. This is the cuff extension.
- Measure a further $\frac{9}{16}$in up the back seam and join this point to the outer corner of the box, creating an angle and shape similar to the center back vent.
- The corner is then folded to create a mitered corner during construction.

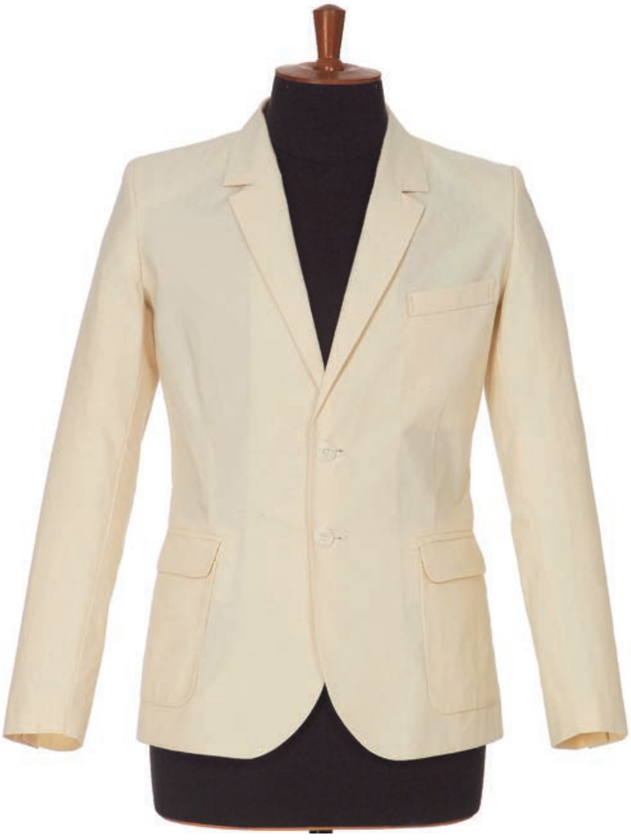
STEP 27

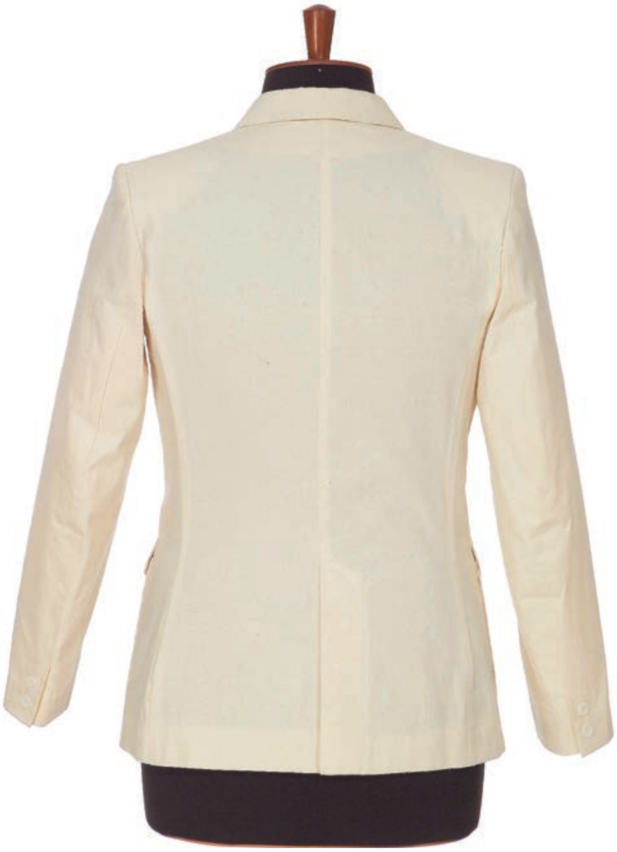
DEVELOPING THE FINAL UNDERSLEEVE PATTERN WITH CUFF VENT

- Trace off the undersleeve onto a separate piece of paper and, following the instructions on page 50, reverse it over.
- From the bottom of the sleeve measure down $1\frac{3}{16}$in and draw a rectangular box to create the facing strip. Extend the length of the cuff facing by $1\frac{3}{16}$in at the inner sleeve seam.
- On top of this extension square up 4in from the facing and create a rectangular box $1\frac{3}{16}$in in width.
- Measure a further $\frac{9}{16}$in up the back seam and join this point to the outer corner of your rectangular box, creating an angle and shape similar to the center back vent.
- The corner is then folded to create a mitered corner during construction.



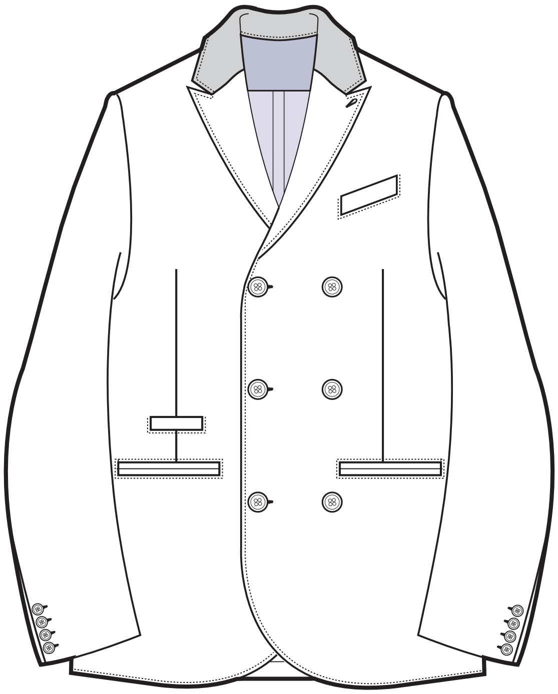


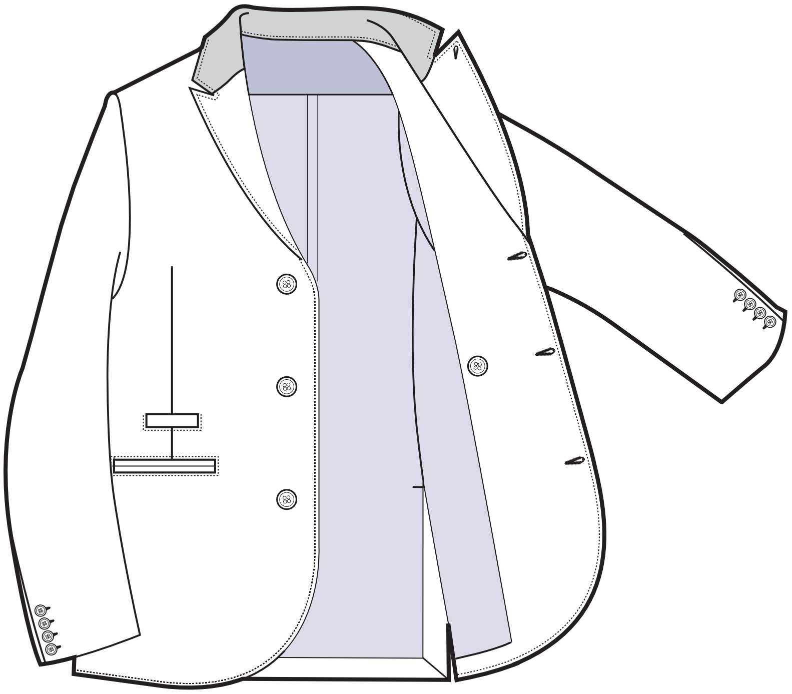


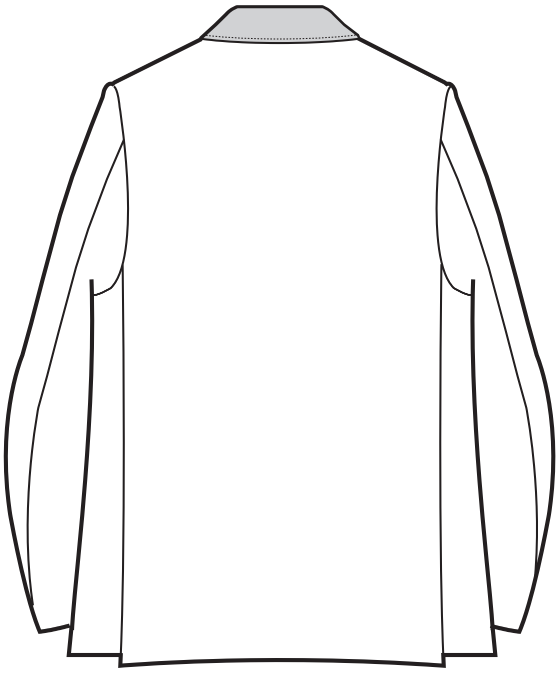


PATTERN

DOUBLE-BREASTED JACKET







This pattern includes development of the following features:

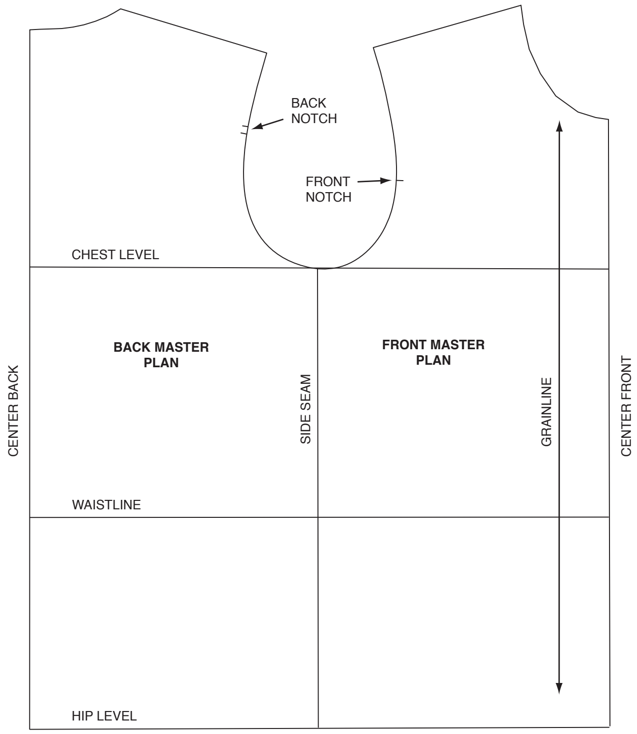
Shaping the body panels and creating a side panel
Creating a double-breasted extension and shaping the breast with added volume
Extending the hemline
Creating side vents
Moving the shoulder slope toward the back
Lowering the armhole
Developing a welted breast pocket
Developing jetted side pockets
Developing a coin pocket
Developing a shaped convertible collar with hidden stand and lapel
Developing a tailored two-piece sleeve with cuff vent
Developing a full body lining

STEP 1
DEVELOPING THE MASTER PLAN

Start by selecting the basic men's upper body sloper, or by drafting the basic sloper according to the instructions on page 40. Cut a large piece of drafting paper slightly longer than the length of the jacket you want to develop and transfer the shape of the sloper and all marks, labels, and instructions, following the directions on page 48.

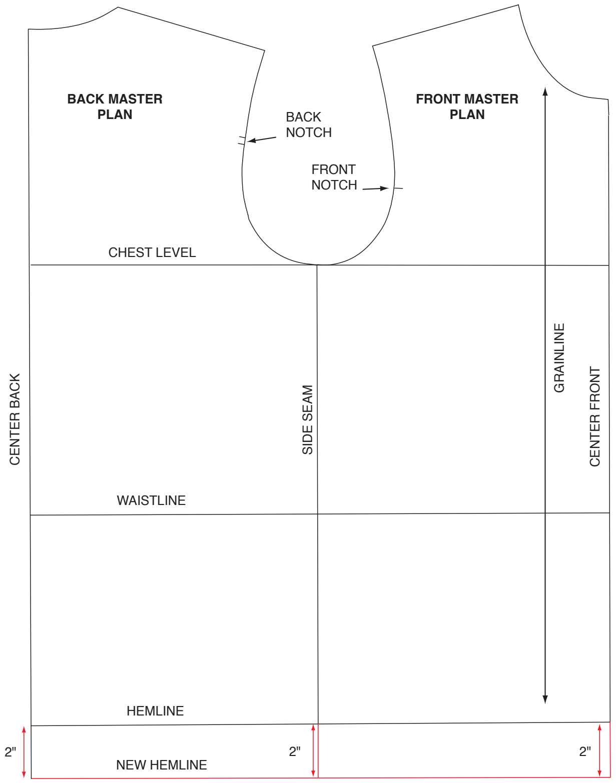
Creating the jacket sloper

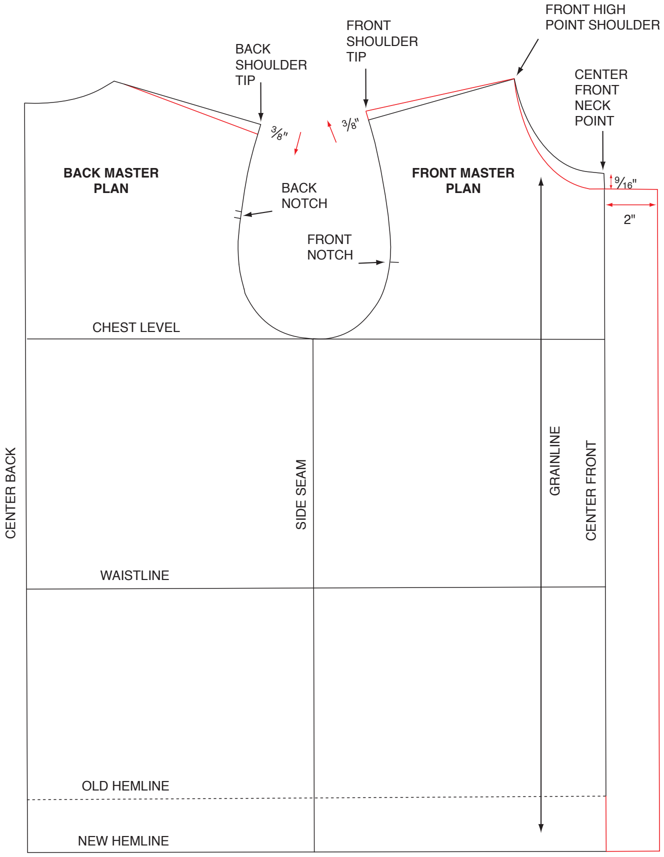
`To create a suit jacket sloper from the basic sloper, you need to make some shape adaptations to the front, side, back, and shoulder areas of the pattern, building on the techniques learned in the single-breasted jacket development (pages 252-67).`


BACK NOTCH
FRONT NOTCH
CHEST LEVEL
BACK MASTER PLAN
FRONT MASTER PLAN
CENTER BACK
SIDE SEAM
GRAINLINE
CENTER FRONT
WAISTLINE
HIP LEVEL

STEP 2
DEVELOPING THE HEMLINE

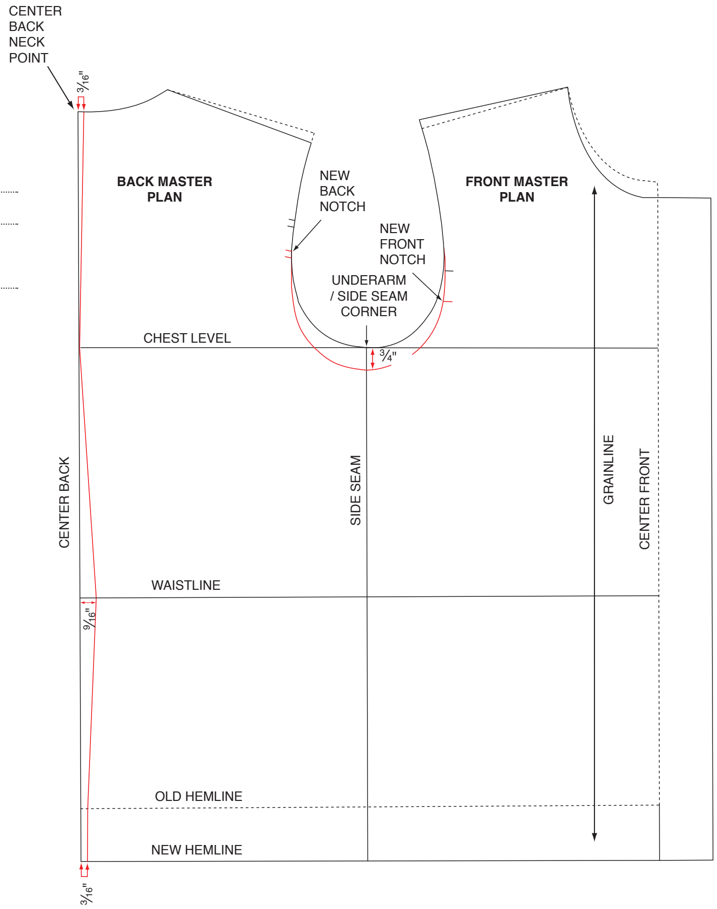
- From the hemline square down 2in at the center front, side seam, and center back lines.
- Join these three points to form the new hemline.


BACK MASTER PLAN
BACK NOTCH
FRONT MASTER PLAN
FRONT NOTCH
CHEST LEVEL
CENTER BACK
SIDE SEAM
GRAINLINE
CENTER FRONT
WAISTLINE
HEMLINE
2"
NEW HEMLINE
2"
2"


FRONT HIGH POINT SHOULDER
FRONT SHOULDER TIP
BACK SHOULDER TIP
CENTER FRONT NECK POINT
3⁄8"
3⁄8"
9⁄16"
2"
BACK MASTER PLAN
FRONT MASTER PLAN
BACK NOTCH
FRONT NOTCH
CHEST LEVEL
CENTER BACK
SIDE SEAM
GRAINLINE
CENTER FRONT
WAISTLINE
OLD HEMLINE
NEW HEMLINE

STEP 3
DEVELOPING THE NEW SHOULDER SLOPE AND FRONT DOUBLE-BREASTED EXTENSION

- From the back shoulder tip measure 3⁄8in down the armhole and mark; from the front shoulder tip extend the armhole up 3⁄8in and mark. From these two new points draw in the new shoulder lines back up to the high point shoulders.
- From the center front neck point measure down 9⁄16in and draw in the new neckline up to the front high point shoulder.
- From the new center front neck point square out 2in; repeat this at the new hemline. Connect these two points to create the double-breasted extension.

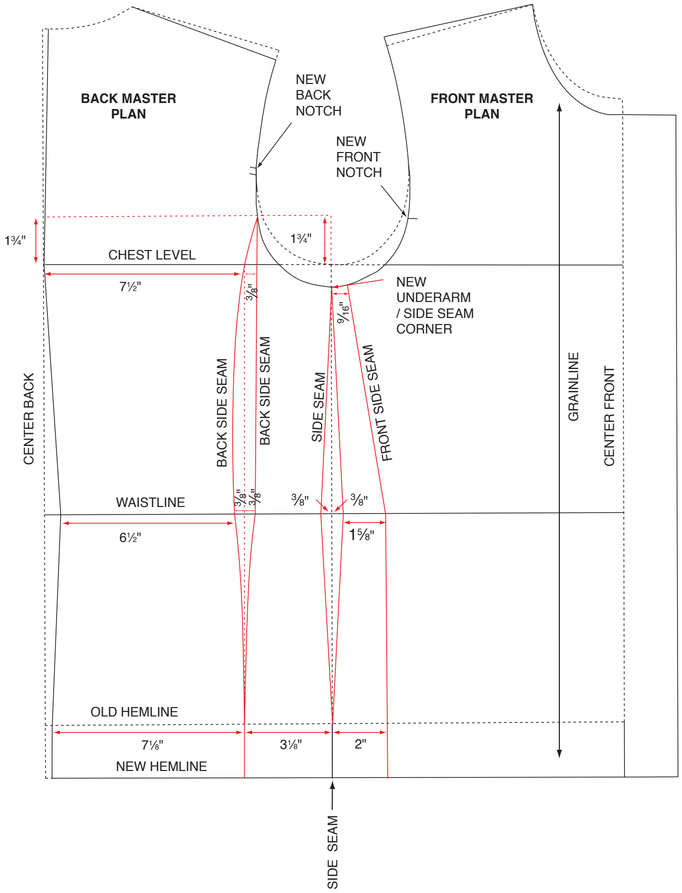

CENTER BACK NECK POINT
3⁄16"
BACK MASTER PLAN
FRONT MASTER PLAN
NEW BACK NOTCH
NEW FRONT NOTCH
UNDERARM / SIDE SEAM CORNER
3⁄4"
CHEST LEVEL
CENTER BACK
SIDE SEAM
GRAINLINE
CENTER FRONT
WAISTLINE
9⁄16"
OLD HEMLINE
NEW HEMLINE
3⁄16"

STEP 4
LOWERING THE ARMHOLE AND DEVELOPING THE INTERNAL SHAPING

- From the underarm / side seam corner measure 3⁄4in down the side seam and using the front and back upper body slopers as a template redraw the armhole from this point, connecting it back up to the shoulder on either side. Draw in the new notches on the lowered armhole.
- To shape the center back, measure in 3⁄16in at the new hemline, measure in 9⁄16in at the waistline, and measure in 3⁄16in at the center back neck point.
- Connect these points with straight lines to create the new center back line.

STEP 5
DEVELOPING THE SIDE PANEL

- Taking volume from the side seam gives a fitted silhouette and will also help you to develop the side panel. From the original side seam at the waistline measure out $\frac{3}{8}$in into the front and back body panels.
- Connect these two points with straight lines up to the new underarm / side seam corner and down to the point where the original side seam line intersects the old hemline.
- For the front style line, from the original side seam measure 2in along the new hemline toward the front and mark, and measure $1\frac{5}{8}$in along the waistline toward the front and mark. At the new underarm / side seam corner square in $\frac{9}{16}$in toward the front and mark.
- Join up the three points with straight lines. This is the front style line, which separates the new side panel from the front panel.
- Having removed volume at the side seam, you then need to remove additional volume from the back panel, to finish the fitted shape of the jacket. You do this between the new back and side panels.
- To create the back style lines, from the center back measure $6\frac{1}{2}$in along the waistline and mark, and continue to measure $\frac{3}{8}$in and a further $\frac{3}{8}$in and mark both points.
- From the center back measure $7\frac{1}{2}$in along the chest level and mark, and measure a further $\frac{3}{8}$in and mark. Measure in $7\frac{1}{8}$in along the original hemline and mark.
- The back side seams start from a point on the back armhole below the notch; measure up $1\frac{3}{4}$in from the chest level on the center back and then square across to the back armhole and mark the point where the line intersects the armhole.
- From this point, starting with a shallow curve, draw the back style lines, intersecting the points marked on the chest level, waistline, and original hemline, and continuing down to the new hemline.

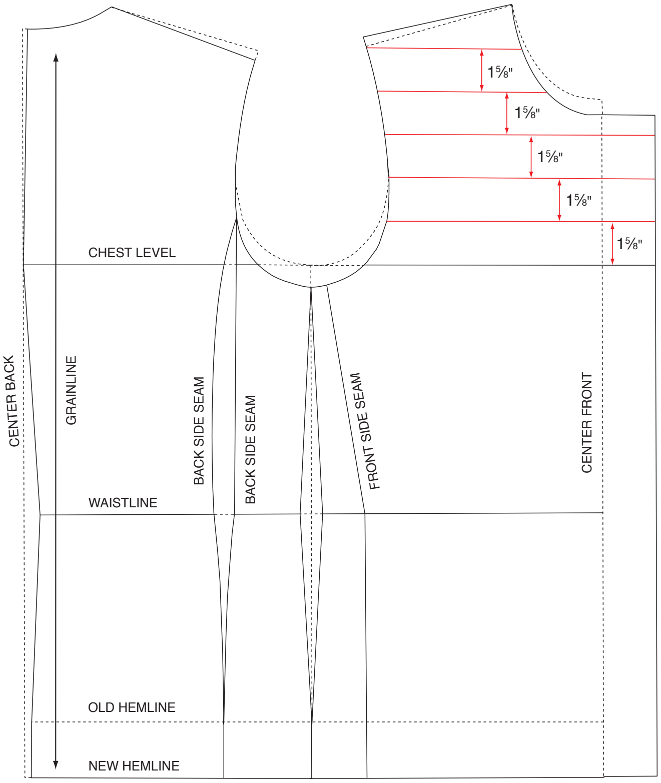

BACK MASTER PLAN
NEW BACK NOTCH
NEW FRONT NOTCH
FRONT MASTER PLAN
1¾"
1¾"
CHEST LEVEL
7½"
⅜"
9/16"
NEW UNDERARM / SIDE SEAM CORNER
CENTER BACK
BACK SIDE SEAM
BACK SIDE SEAM
SIDE SEAM
FRONT SIDE SEAM
GRAINLINE
CENTER FRONT
WAISTLINE
⅜"
⅜"
⅜"
⅜"
6½"
1⅝"
OLD HEMLINE
7⅛"
3⅛"
2"
NEW HEMLINE
SIDE SEAM

STEP 6
DEVELOPING THE FRONT LAPEL SHAPING

Lapel shape

Pitching back and opening the front chest/lapel shape will enable the straight sloper front to follow the contours of a male chest.

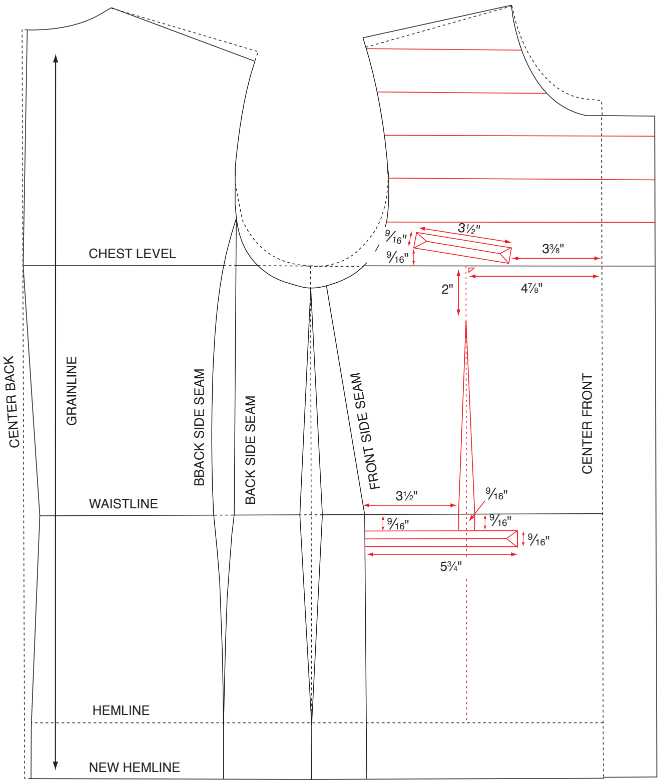
From the chest level measure up $1\frac{5}{8}$in and square a line across; repeat four times.


1⅝"
1⅝"
1⅝"
1⅝"
1⅝"
CHEST LEVEL
CENTER BACK
GRAINLINE
BACK SIDE SEAM
BACK SIDE SEAM
FRONT SIDE SEAM
CENTER FRONT
WAISTLINE
OLD HEMLINE
NEW HEMLINE

STEP 7

DEVELOPING THE WELTED BREAST POCKET AND SIDE JETTED POCKET

- For the breast pocket placement, from the center front square in 3⅜in along the chest level; this is the bottom corner of the rectangular welt opening.
- From this point, draw a line 3½in long at an angle, ending 9⁄16in above the chest level. Create a rectangle 9⁄16in wide by 3½in long.
- A center dart is created to run down into the side jetted pocket to give shape to the lower chest. This pocket runs off the front panel into the front style line; when plotting the pocket measurement do not include the dart width, which will be added next.
- From the center front measure in 4⅞in along the chest level and from here square down to the old hemline. Mark a point on this line 2in below the chest level; this is the top of the dart.
- From the front side seam measure in 3½in along the waistline and mark. Measure a further 9⁄16in and mark; this is the dart width. From these points draw two straight lines up to the dart top.
- The pocket opening sits 9⁄16in below the waistline. Create a rectangle 5¾in long and 9⁄16in wide; this is the pocket opening.

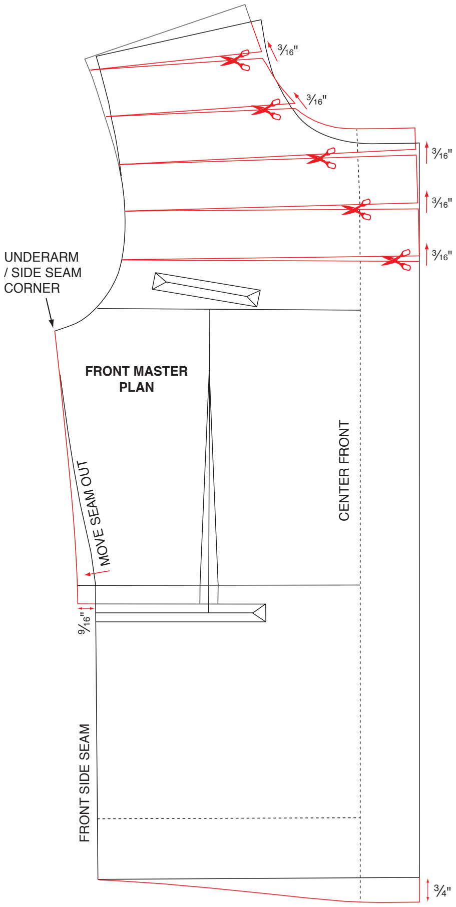


CHEST LEVEL
9⁄16"
9⁄16"
3½"
3⅜"
2"
4⅞"
CENTER BACK
GRAINLINE
BBACK SIDE SEAM
BACK SIDE SEAM
FRONT SIDE SEAM
CENTER FRONT
WAISTLINE
3½"
9⁄16"
9⁄16"
9⁄16"
9⁄16"
5¾"
HEMLINE
NEW HEMLINE

STEP 8

ADDING IN THE VOLUME ON THE FRONT LAPEL / CHEST PANEL, CREATING THE CENTER DART VOLUME AND FRONT HEM STYLING

- From the master plan trace off the front panel only onto a separate piece of paper including all the development in Steps 6 and 7.
- Cut along the horizontal lines you drew across the chest and neck from the center front and neck into the shoulder; open each 3⁄16in upward at the front, creating a wedge shape, adding in a total of 15⁄16in.
- Tape against a new piece of paper and redraw the front panel blending through the open steps.
- When the center dart is sewn up, this will reduce the length of the top of the jetted pocket. To add back this volume, square out 9⁄16in (the width of the dart) from the top of the pocket opening. From here blend a line back up into the front style line finishing at the armhole.
- To add style shaping to the center front hem, measure down ¾in from the hemline at the new front edge and connect back to the front style line with a smooth curve.
- Cut another piece of paper and trace off a new front master plan.



3⁄16"
3⁄16"
3⁄16"
3⁄16"
3⁄16"
UNDERARM / SIDE SEAM CORNER
FRONT MASTER PLAN
MOVE SEAM OUT
CENTER FRONT
9⁄16"
FRONT SIDE SEAM
¾"

STEP 9

DEVELOPING THE SHAPED CONVERTIBLE COLLAR, COIN POCKET, AND HEM SHAPING

Break point and roll line

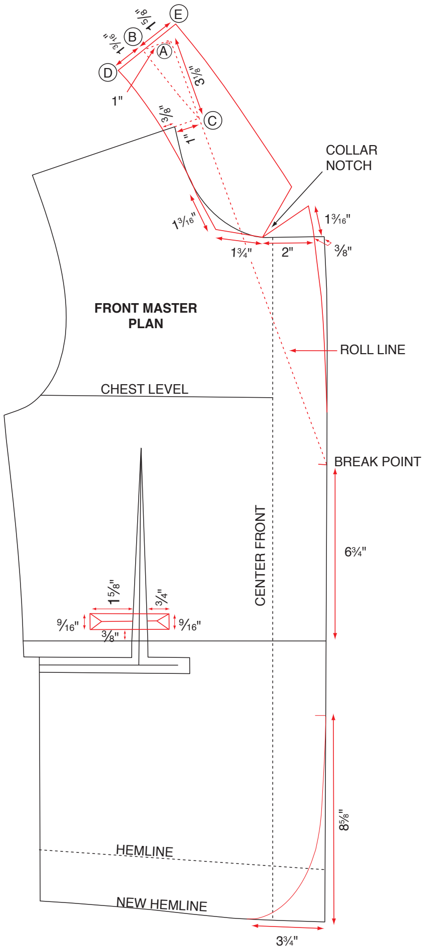
Locate on the pattern the position where you want the collar to break on the new front edge line of the body panel. Consider the proportion of your design and silhouette length. The point at which the front turns over to create a lapel is called the break point (BP) and the line that it turns on is the roll line. The lower down the front your BP is, the wider an opening you will have around the neck silhouette.

- From the high point shoulder measure out 1in and mark point (C).
- You will run your roll line through (C); from the waistline measure 6 3/4in up the front, mark, and label *break point*.
- Draw a straight line from here up through (C), continue for 3 1/8in, and mark point (A).
- From (A) square 1in back toward the shoulder and mark point (B).
- Draw a line from (B) to (C). Square out 1 3/16in from the top of this line toward the shoulder and mark point (D).
- From (B) extend the line out 1 5/8in and mark point (E). This is the width of the collar (2 3/4in) at the center back neck curve.
- From (E), starting at a right angle, draw out the collar shape that you require, finishing the collar notch 2 3/8in in from the extended front.
- To shape the front of the jacket lapel, measure in 3/8in from the center front neck point. From this point draw a graduated line back down the center front to give shape, and draw up 1 3/16in to create the collar point. Draw a line from the collar point back to the end of the collar notch.
- From (D) draw a line back toward the shoulder line, crossing it 3/8in back from the high point shoulder, and blend in to the curved neck shape—find the angle by measuring in 1 3/4in from the collar notch and then up 1 3/16in until it connects to the neckline.

Checking the shape

It is always important to check the shape you have created by folding back the paper on the roll line to assess it; redraw and develop until you are satisfied. The sequence above is a method widely used to draft a basic tailored collar. Variations can be found in many patternmaking books, old and new.

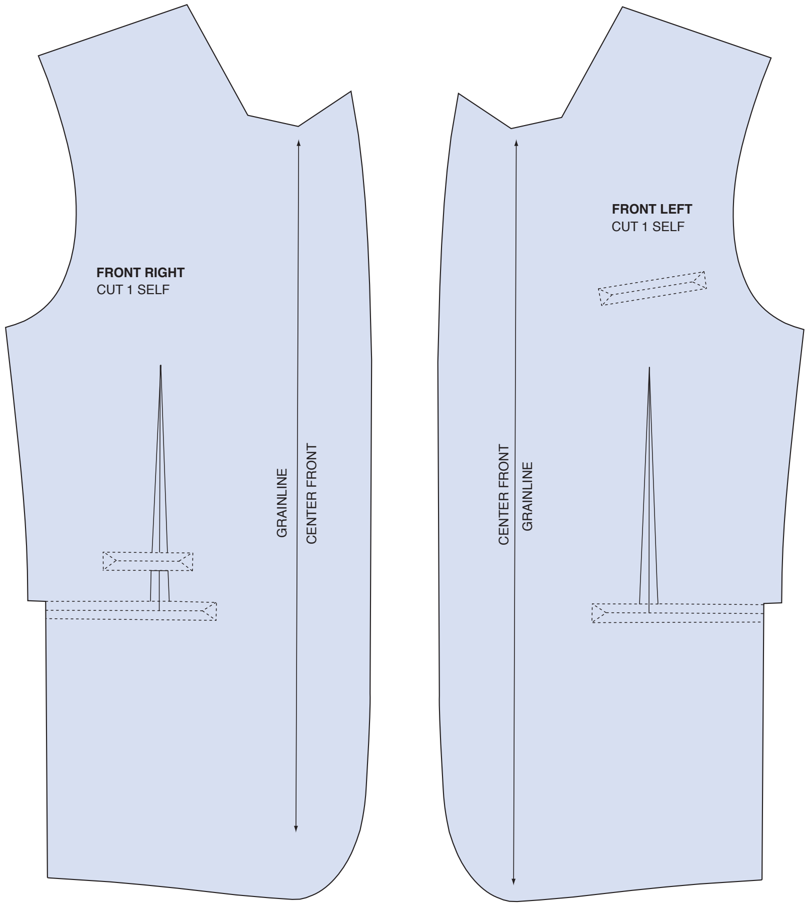
- The welted coin pocket is developed just above the jetted pocket running across the center dart. From the waistline square up 3/8in, then create a rectangle 9/16in wide by 2 3/8in long, with the measurement split between each side of the dart so that 3/4in is toward the center front and 1 5/8in toward the side seam.
- At the center front hemline measure back 3 3/4in toward the side seam and mark; measure 8 5/8in up the center front. Use a French curve to give a smooth rounded edge to the bottom corner.



STEP 10

FRONT RIGHT AND FRONT LEFT BODY PATTERNS

- Following the instructions on page 50, trace off the front panel to create the final front right pattern, excluding the welted breast pocket and the collar development.
- To trace off the left side final front pattern, reverse the master and copy the underside. Mark the breast pocket and omit the welted coin pocket.

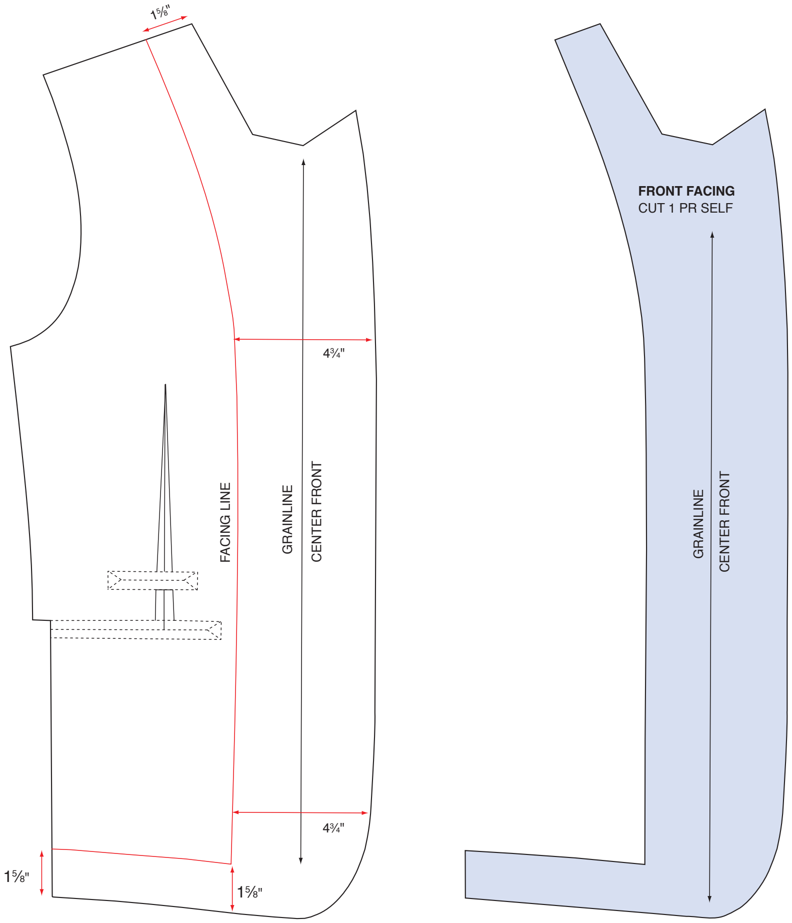


FRONT RIGHT
CUT 1 SELF
GRAINLINE
CENTER FRONT
FRONT LEFT
CUT 1 SELF
CENTER FRONT
GRAINLINE

STEP 11

DEVELOPING THE FRONT FACING PATTERN

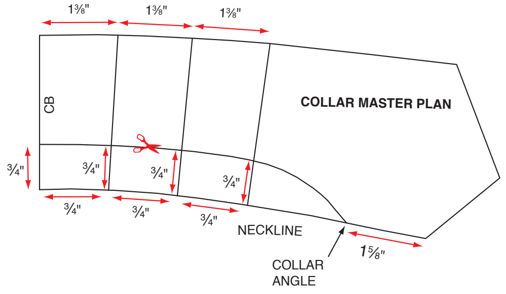
- Develop the front facing using the front right panel pattern.
- From the high point shoulder, measure 1⅝in back along the shoulder seam; this is the width of the facing.
- From the jacket front, measure in 4¾in along the chest level and mark, and repeat at the waistline.
- From the hemline, measure 1⅝in up the side seam and from here square across toward the center front.
- Draw a blended line joining these points from the shoulder seam through the chest and waistlines and continue straight down toward the line you drew at the hem until the two intersect 1⅝in above the hemline.
- Following the instructions on page 50, trace off the final facing pattern.

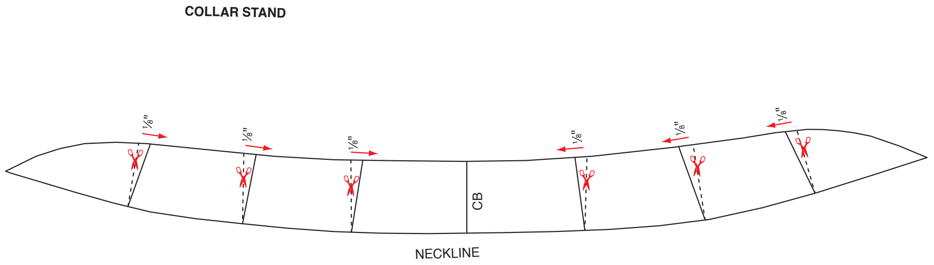


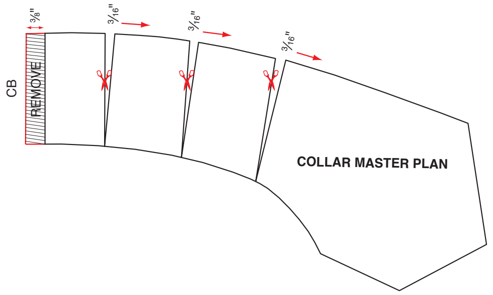
1⅝"
4¾"
FACING LINE
GRAINLINE
CENTER FRONT
4¾"
1⅝"
1⅝"
FRONT FACING
CUT 1 PR SELF
GRAINLINE
CENTER FRONT

STEP 12
DEVELOPING THE SHAPED CONVERTIBLE COLLAR AND HIDDEN STAND

- Trace off the half collar development from Step 9 onto a separate piece of paper.
- To develop half the concealed stand shape, measure ¾in up the center back from the neckline and mark; measure 1⅝in in from the point at the angle of the front neck curve and mark. Connect these points with a curved line.
- From the center back measure ¾in along the neckline and 1⅜in along the outer edge and mark, repeat twice; divide the collar into four sections by connecting these points to form cut lines through the collar shape.
- Remove the stand shape from the development by tracing onto a separate piece of paper; double it over to create the full stand shape, indicating the vertical cut lines.
- Cut down the vertical lines on the full stand shape, leaving them attached at the neckline by a fraction of an inch. Overlap the sections along the top edge, moving them ⅛in toward the center back; this will bring the neckline up.
- Trace off the half top collar shape onto a separate piece of paper. Cut down the vertical lines from the outer edge, leaving them attached at the bottom by a fraction of an inch. Starting from the center back, open out each line by 3⁄16in, curving the top collar down.
- Remove ⅜in from the center back, which is the amount lost by closing the stand up.

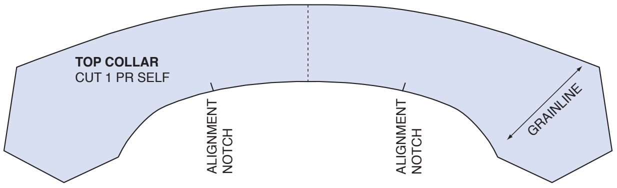

1⅜"
1⅜"
1⅜"
CB
COLLAR MASTER PLAN
¾"
¾"
¾"
¾"
¾"
¾"
¾"
NECKLINE
1⅝"
COLLAR
ANGLE

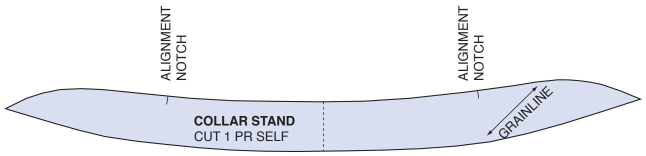

COLLAR STAND
⅛"
⅛"
⅛"
⅛"
⅛"
⅛"
CB
NECKLINE


⅜"
3⁄16"
3⁄16"
3⁄16"
CB
REMOVE
COLLAR MASTER PLAN

STEP 13
COLLAR AND COLLAR STAND PATTERNS

- Trace off the top collar onto a new piece of paper and, following the instructions on page 50, create the full pattern shape.
- Following the instructions on page 50, trace off the full stand pattern.

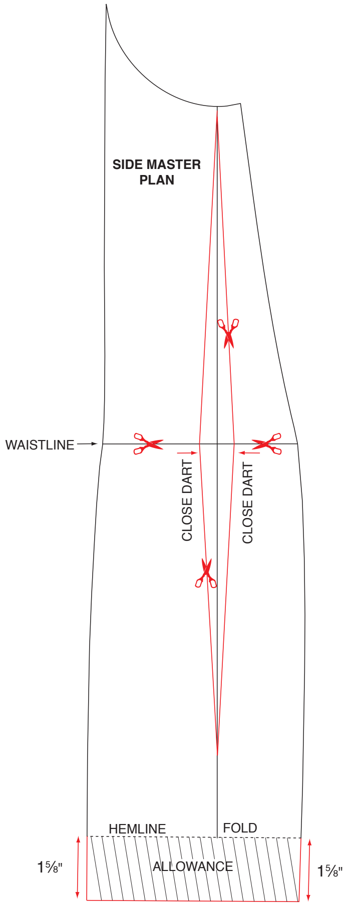

TOP COLLAR
CUT 1 PR SELF
ALIGNMENT NOTCH
ALIGNMENT NOTCH
GRAINLINE


ALIGNMENT NOTCH
ALIGNMENT NOTCH
COLLAR STAND
CUT 1 PR SELF
GRAINLINE

STEP 14

DEVELOPING THE SIDE PANEL AND HEM ALLOWANCE

- Following the instructions on page 50, trace off the side panel from Step 5 onto a separate piece of paper.
- Next you need to remove the internal volume by closing the dart in the side seam. Cut down both sides of the side seam to the bottom of the shaping and out along the waistline, making sure to leave the shapes connected by a sliver of paper at the edges so that the side lengths do not change when manipulated.
- Reposition by closing up the shape and tape together to redraw the new side panel shape.
- At the hemline measure 1⅝in down on both sides and square across to create a rectangular box; this is the hem allowance.



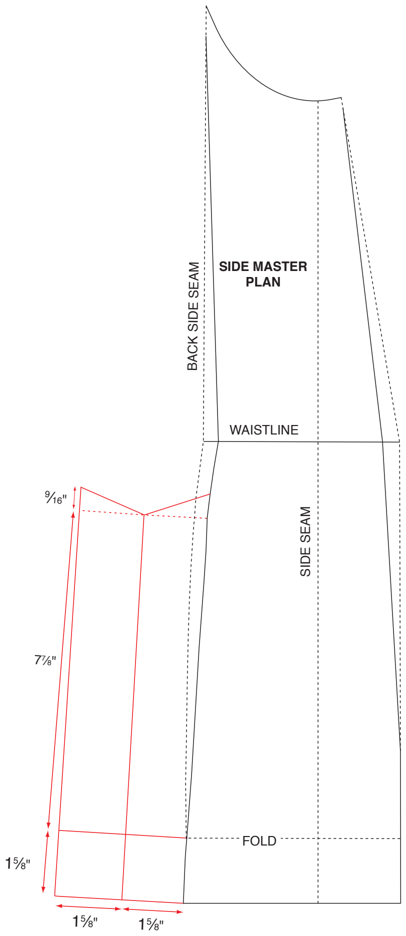
STEP 15

DEVELOPING THE SIDE VENT

Parts of the vent

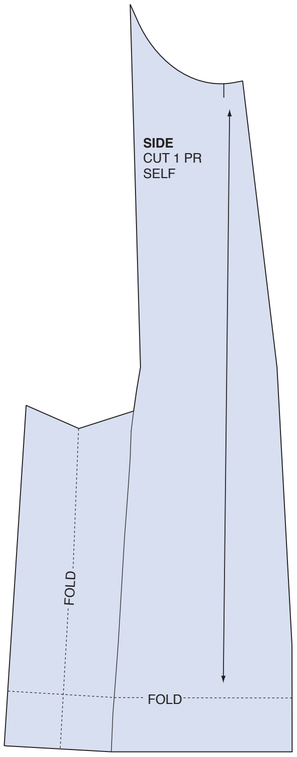
The vent development has two parts. One is a side vent facing that sits under the back body panel, attached to the side panel. The vent shape is doubled so that it can be folded back on itself to create a facing with a mitered top. The second part is a facing that is developed on the back panel and sits over the side vent: This is a single shape that acts as a facing when turned in.

- To add the side vent to the side panel, square out 1⅝in from the back style line at the hemline and mark. Then measure out a further 1⅝in and mark. Square up 1⅝in (the hem allowance measurement) and mark, then a further 7⅞in (the vent length) and square back into the back panel.
- Measure 1⅝in back along this line and square down to the mark on the hemline.
- Extend the 1⅝in facing line from the side panel across the vent.
- At the top of the vent, measure up 9/16in on the outside line and again on the back style line. Connect these two points back down to the top of the center line of the vent. This creates the mitered corner at the top of the vent.



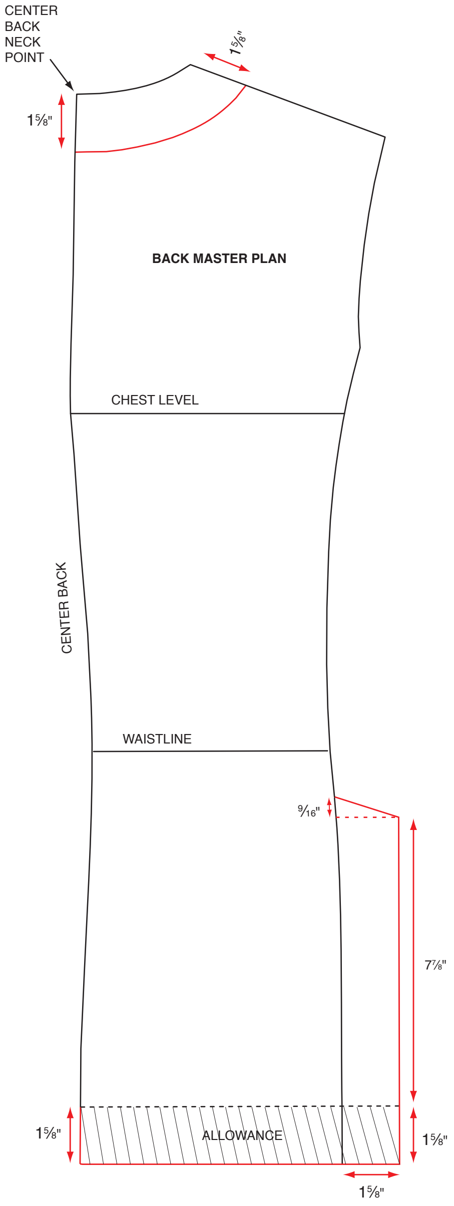
STEP 16
SIDE PATTERN

- Following the instructions on page 50, trace off the side panel pattern.


SIDE
CUT 1 PR
SELF
FOLD
FOLD

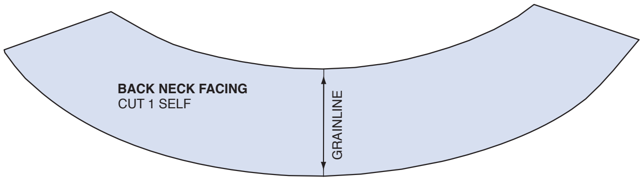
STEP 17
DEVELOPING THE BACK HEM, VENT, AND BACK NECK FACING

- From the master plan trace the back panel onto a separate piece of paper.
- From the hemline measure down 1⅝in on both sides and square across to form a rectangle; this is the hem allowance.
- From the bottom of the hem allowance measure out a further 1⅝in from the front style line, then square up 1⅝in (the hem allowance measurement), then a further 7⅞in (the vent length) and square back in to the side panel. From this point measure up 9⁄16in on the side seam and draw an angled line back to the top corner of the vent shape.
- The back neck facing is 1⅝in in width to match the front; measure 1⅝in down from the center back neck point and 1⅝in down the shoulder and connect these two points with a curved line following the shape of the neckline.

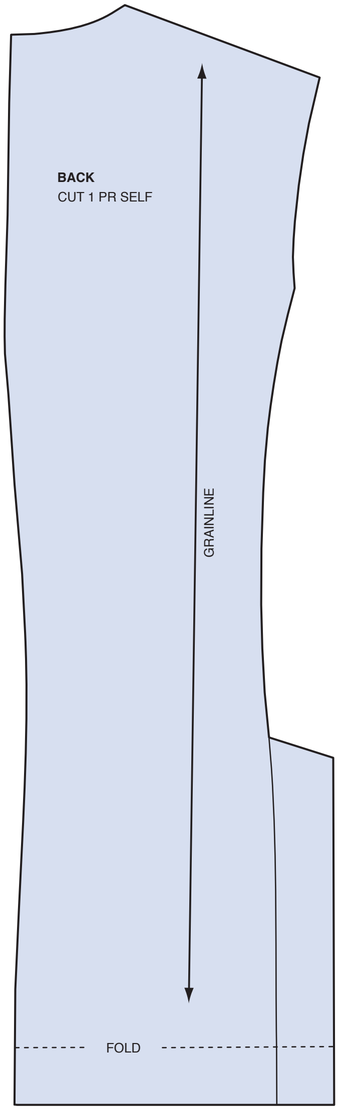

CENTER BACK NECK POINT
1⅝"
1⅝"
BACK MASTER PLAN
CHEST LEVEL
CENTER BACK
WAISTLINE
9⁄16"
7⅞"
1⅝"
ALLOWANCE
1⅝"
1⅝"

STEP 18
BACK PANEL AND BACK NECK FACING PATTERNS

- Following the instructions on page 50, trace off the back panel pattern.
- Trace off the back neck facing onto a new piece of paper and, following the instructions on page 50, create the full pattern shape.



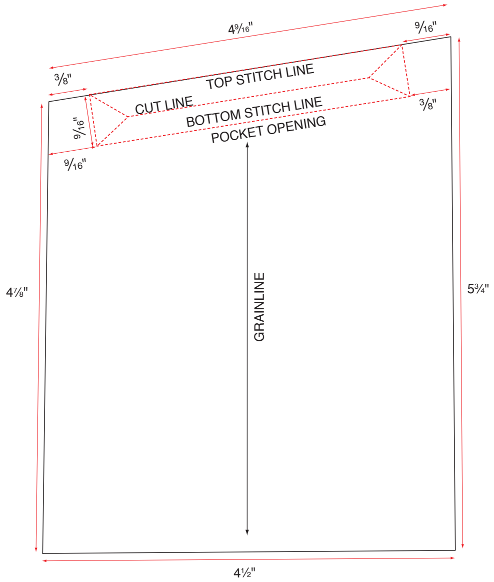
BACK NECK FACING
CUT 1 SELF
GRAINLINE



BACK
CUT 1 PR SELF
GRAINLINE
FOLD

STEP 19
DEVELOPING THE BREAST POCKET TOP AND BOTTOM BAGS

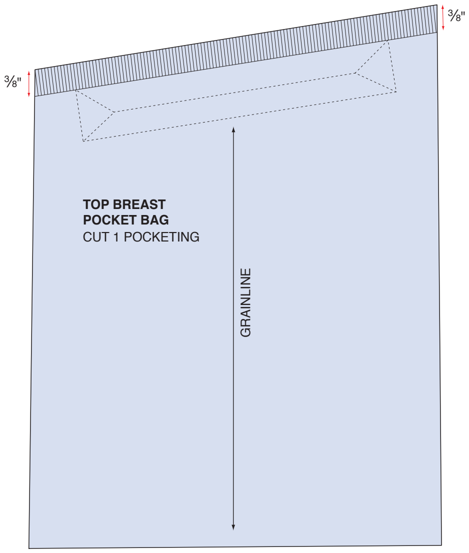
- From the front left final pattern in Step 9, trace off the breast pocket opening onto a separate piece of paper so that you have a rectangle 3½in long by 9⁄16in wide drawn at an angle.
- Extend the top stitch line by 9⁄16in to the right and ⅜in to the left, and extend the bottom stitch line by 9⁄16in to the left and ⅜in to the right.
- Connecting these points on the left, draw a 4⅞in vertical line down. Connecting the points on the right, draw a 5¾in vertical line down. Square across 4½in at the bottom to connect these two lines (the width of the pocket bag).

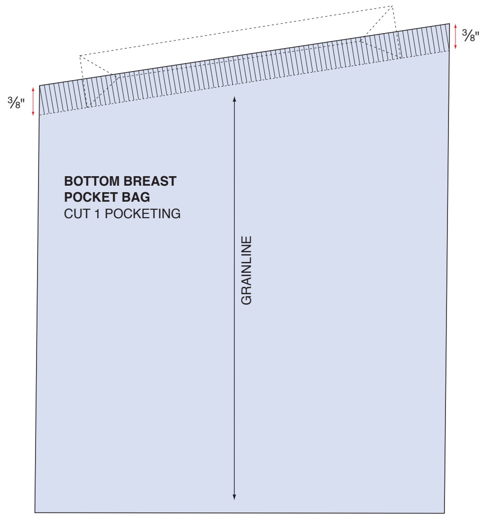


4 9⁄16"
9⁄16"
⅜"
TOP STITCH LINE
CUT LINE
BOTTOM STITCH LINE
POCKET OPENING
⅜"
9⁄16"
9⁄16"
4⅞"
GRAINLINE
5¾"
4½"

STEP 20
BREAST POCKET BAG PATTERNS

- Following the instructions on page 50, trace off the pocket bag shape and add a 3⁄8in seam allowance above the top stitch line to create the final top pocket bag pattern.
- Trace off the pocket bag shape again as far as the bottom stitch line, then add a 3⁄8in seam allowance to create the final bottom pocket bag pattern.


3⁄8"
3⁄8"
TOP BREAST
POCKET BAG
CUT 1 POCKETING
GRAINLINE

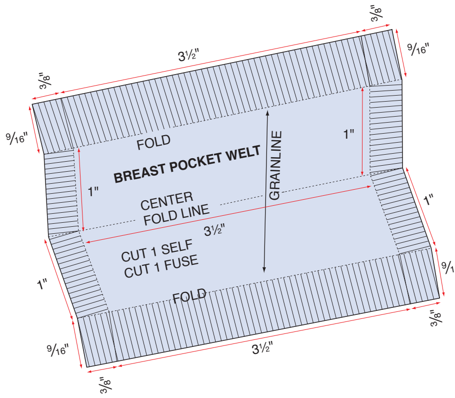

3⁄8"
3⁄8"
BOTTOM BREAST
POCKET BAG
CUT 1 POCKETING
GRAINLINE

STEP 21
DEVELOPING THE BREAST POCKET WELT

Welts

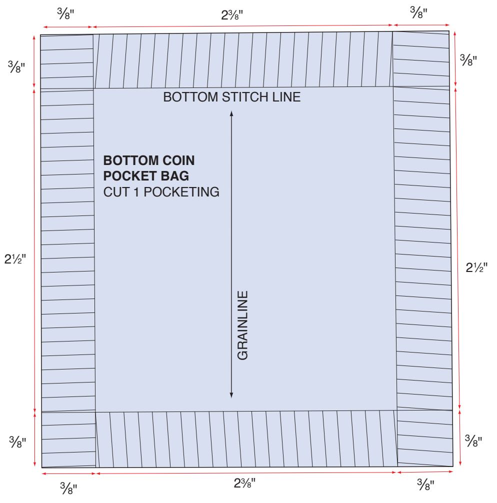
`If your welted pocket is angled, then the welt will need to reflect this. Welts can be the same size or larger than pocket openings and are doubled over so they have two layers of fabric, with a fusing layer in between for rigidity.`

- From the front left pattern in Step 9, trace one long side of the breast pocket opening onto a separate piece of paper so that you have a line 3½in long at the same angle as the breast pocket itself. This will become the center fold line. Copy the direction of the grainline across, too.
- Parallel to the grainline, draw 1in lines up from both ends of the line and mark. Connect these marks to create a parallelogram.
- Mirror this parallelogram along the fold line.
- Add a 9⁄16in seam allowance to both long sides of the shape and a 3⁄8in allowance to the shorter sides.

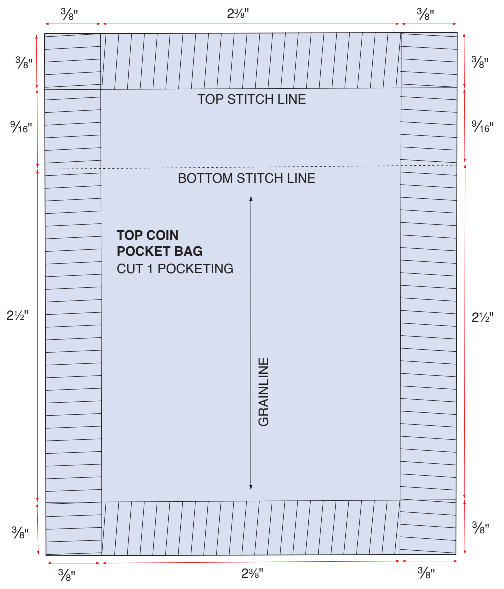

3⁄8"
9⁄16"
3½"
3⁄8"
9⁄16"
1"
FOLD
BREAST POCKET WELT
GRAINLINE
1"
CENTER
FOLD LINE
3½"
1"
CUT 1 SELF
CUT 1 FUSE
1"
9⁄16"
FOLD
9⁄16"
3½"
3⁄8"
3⁄8"

STEP 22
DEVELOPING THE COIN POCKET TOP AND BOTTOM BAG

- Draw a rectangle $2\frac{3}{8}$in wide and $2\frac{1}{2}$in tall (the size of the coin pocket bag). Label the top edge as the *bottom stitch line* and add a $\frac{3}{8}$in seam allowance to all sides. This is the bottom coin pocket bag.
- Draw another rectangle the same size and again label the top edge as the bottom stitch line.
- Square up $\frac{9}{16}$in on both sides and connect these points to create a second rectangle.
- Label the top edge of this rectangle as the *top stitch line*. Add a $\frac{3}{8}$in seam allowance on all sides. This is the top coin pocket bag.



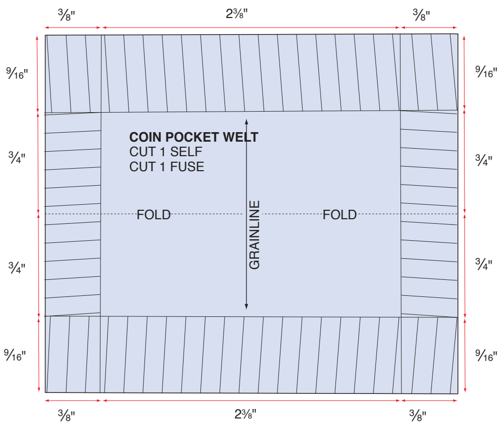
⅜"
2⅜"
⅜"
⅜"
⅜"
BOTTOM STITCH LINE
BOTTOM COIN POCKET BAG
CUT 1 POCKETING
GRAINLINE
2½"
2½"
⅜"
⅜"
⅜"
2⅜"
⅜"



⅜"
2⅜"
⅜"
⅜"
⅜"
⁹⁄₁₆"
⁹⁄₁₆"
TOP STITCH LINE
BOTTOM STITCH LINE
TOP COIN POCKET BAG
CUT 1 POCKETING
GRAINLINE
2½"
2½"
⅜"
⅜"
⅜"
2⅜"
⅜"

STEP 23
DEVELOPING THE COIN POCKET WELT

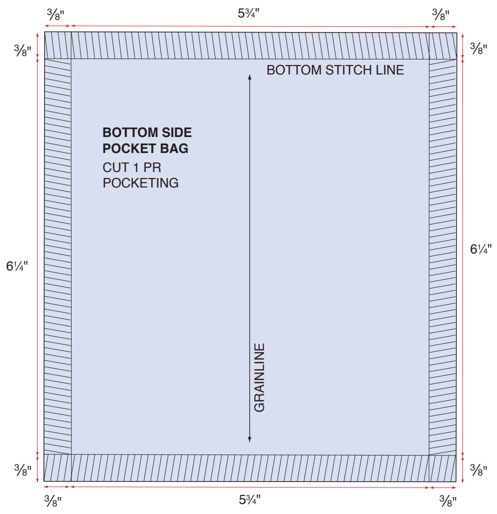
- On a separate piece of paper, draw a horizontal box $2\frac{3}{8}$in long and $1\frac{1}{2}$in wide to create a rectangular-shaped welt.
- Divide the box in half lengthways, draw a line down the center, and label it *fold*.
- Add a $\frac{3}{8}$in seam allowance to each end and a $\frac{9}{16}$in seam allowance to each long side to create the final pocket welt pattern.

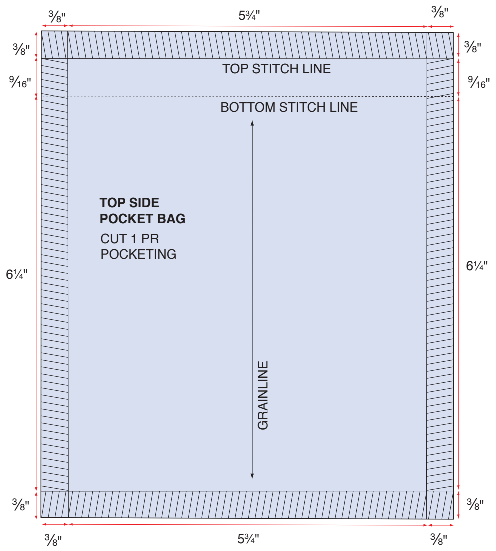


⅜"
2⅜"
⅜"
⁹⁄₁₆"
⁹⁄₁₆"
COIN POCKET WELT
CUT 1 SELF
CUT 1 FUSE
¾"
¾"
FOLD
FOLD
GRAINLINE
¾"
¾"
⁹⁄₁₆"
⁹⁄₁₆"
⅜"
2⅜"
⅜"

STEP 24
DEVELOPING THE TOP AND BOTTOM SIDE POCKET BAGS

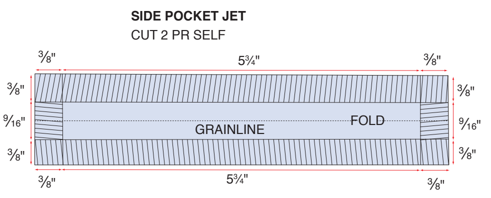
- Draw a rectangle 5¾in wide and 6¼in tall (the size of the coin pocket bag). Label the top edge as the *bottom stitch line* and add a ⅜in seam allowance to all sides. This is the bottom side pocket bag.
- Draw another rectangle the same size and again label the top edge as the *bottom stitch line*.
- Square up 9⁄16in on both sides and connect these points to create a second rectangle. Label the top edge of this rectangle as the *top stitch line*. Add a ⅜in seam allowance on all sides. This is the top side pocket bag.


⅜"
5¾"
⅜"
⅜"
⅜"
BOTTOM STITCH LINE
BOTTOM SIDE POCKET BAG
CUT 1 PR
POCKETING
6¼"
6¼"
GRAINLINE
⅜"
⅜"
⅜"
5¾"
⅜"


⅜"
5¾"
⅜"
⅜"
⅜"
TOP STITCH LINE
9⁄16"
9⁄16"
BOTTOM STITCH LINE
TOP SIDE POCKET BAG
CUT 1 PR
POCKETING
6¼"
6¼"
GRAINLINE
⅜"
⅜"
⅜"
5¾"
⅜"

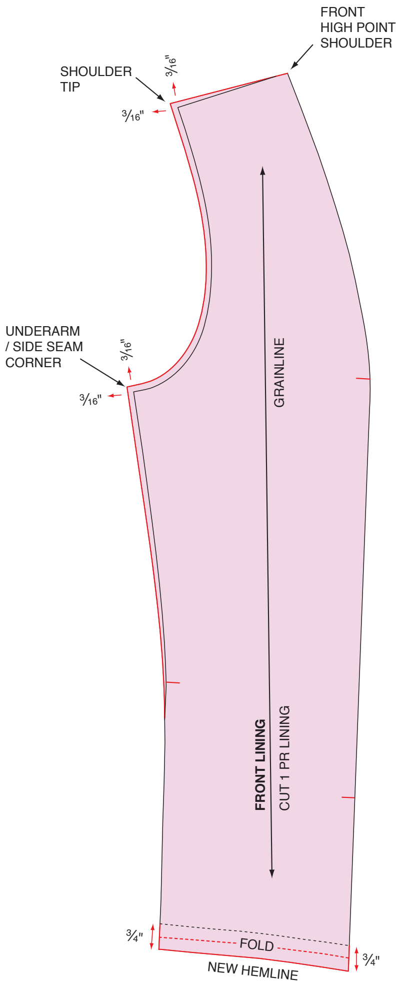
STEP 25
DEVELOPING THE SIDE POCKET JET

- On a separate piece of paper, draw a horizontal box 5½in long (the width of the side pocket opening) by 9⁄16in wide to create the side pocket jet.
- Divide the box in half lengthways, draw a line down the center, and label it *fold*.
- Add a ⅜in seam allowance on all sides to create the final side pocket jet pattern.


SIDE POCKET JET
CUT 2 PR SELF
⅜"
5¾"
⅜"
⅜"
⅜"
9⁄16"
9⁄16"
FOLD
GRAINLINE
⅜"
⅜"
⅜"
5¾"
⅜"

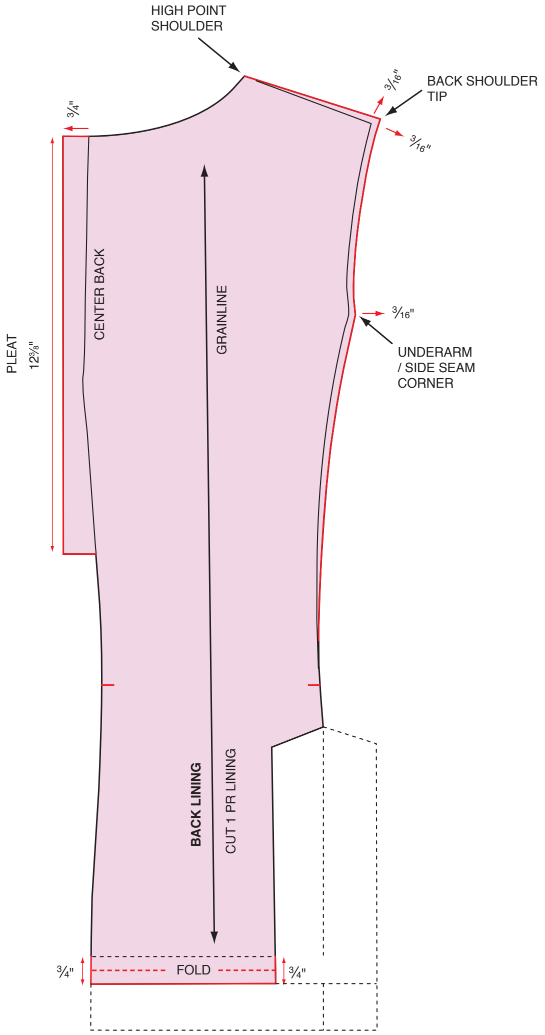
STEP 26
DEVELOPING THE FRONT LINING

- Following the instructions on page 50, trace off a copy of the front body panel from Step 9. Remove the facing shape from the front; the remaining shape will become the front lining.
- Next you need to add ease by increasing the armhole width to allow for movement. At the shoulder tip measure out 3⁄16in and mark, and up 3⁄16in and mark. Find the new shoulder tip, and draw a straight line back toward the front high point shoulder.
- From the top of the front style line measure up 3⁄16in and mark, and out 3⁄16in and mark. Find the point and using a French curve draw a line 3⁄16in out from the original armhole back up to the new shoulder tip.
- From the new point blend the front side seam down to meet the original hemline.
- From the hemline extend the front style line and the front edge down by 3⁄4in and square across; this will create an overlap to allow movement when bending over in the garment.
- Draw a fold line 3⁄8in up from the new hemline.


FRONT HIGH POINT SHOULDER
SHOULDER TIP
3⁄16"
3⁄16"
UNDERARM / SIDE SEAM CORNER
3⁄16"
3⁄16"
GRAINLINE
FRONT LINING
CUT 1 PR LINING
3⁄4"
FOLD
NEW HEMLINE
3⁄4"

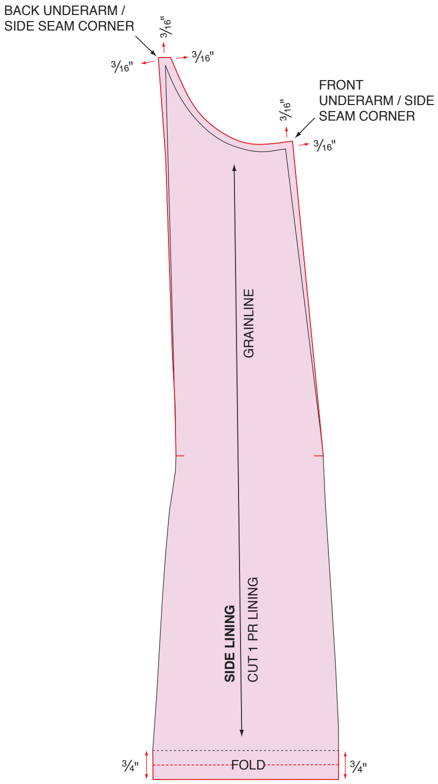
STEP 27
DEVELOPING THE BACK LINING

- Following the instructions on page 50, trace off a copy of the back body panel from Step 17. Remove the hem allowance shape; the remaining shape will become the back lining.
- You need to add ease to the center back to allow the lining to expand across the shoulderblades and also to increase the armhole to allow for movement.
- Fold over the vent shape onto the pattern, trace around it, and then remove the vent and its negative shape from the back style line.
- From the center back neck point measure out 3/4in and then square down 12 3/8in and square back in; this will become the pleat at the center back.
- From the back shoulder tip measure out 3/16in and mark, and up 3/16in and mark. Find the new back shoulder tip and draw a straight line from here back toward the high point shoulder.
- From the top of the back style line measure out 3/16in and mark. From this new point, and using a French curve, draw a line 3/16in out from the original armhole back up to the new shoulder tip.
- From the new point blend the back style line down to meet the original hemline.
- From the hemline extend the center back seam and the side vent seam down by 3/4in and square across; this will create an overlap to allow movement when bending over in the garment.
- Draw a fold line 3/8in up from the new hemline.


HIGH POINT SHOULDER
BACK SHOULDER TIP
3/16"
3/16"
3/4"
PLEAT 12 3/8"
CENTER BACK
GRAINLINE
3/16"
UNDERARM / SIDE SEAM CORNER
BACK LINING
CUT 1 PR LINING
3/4"
FOLD
3/4"

STEP 28
DEVELOPING THE SIDE LINING

- Following the instructions on page 50, trace off a copy of the side panel from Step 15. Remove the hem allowance and the vent shape; the remaining shape will become the side lining.
- Next you need to add ease to the underarm shape to allow the lining to expand, giving increased movement to the armhole width. At the top of the front and back style lines measure up 3/16in and mark, and measure out 3/16in and mark. Find the new points (the front and back underarm / side seam corners), and using a French curve connect them up at a distance of 3/16in out from the original armhole.
- From the underarm / side seam corner blend the style lines down to meet the original hemline.
- From the hemline extend the back and front style lines down by 3/4in and square across; this will create an overlap to allow movement when bending over in the garment.
- Draw a fold line 3/8in up from the new hemline.


BACK UNDERARM / SIDE SEAM CORNER
3/16"
3/16"
3/16"
FRONT UNDERARM / SIDE SEAM CORNER
3/16"
3/16"
GRAINLINE
SIDE LINING
CUT 1 PR LINING
3/4"
FOLD
3/4"

STEP 29

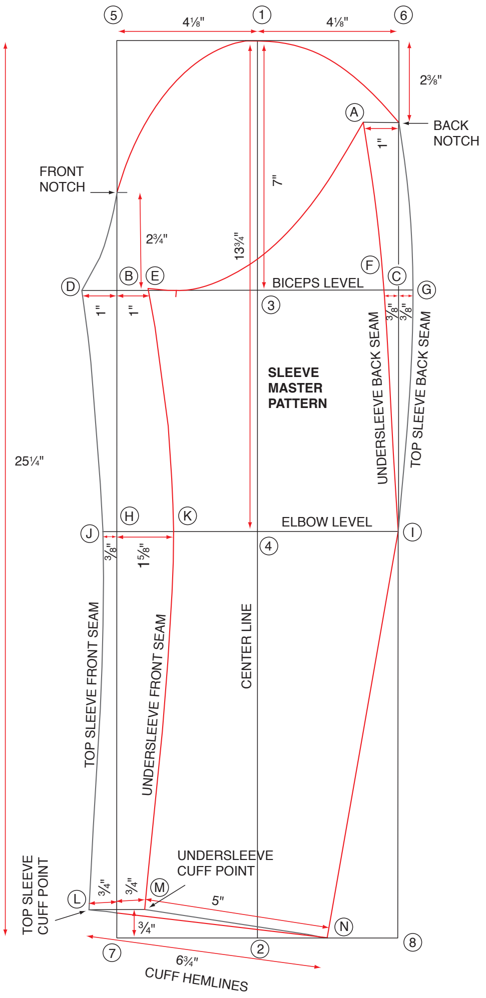
DEVELOPING THE TWO-PIECE TAILORED SLEEVE

Measurements required to develop the sleeve

Measurements required to draft the tailored two-piece sleeve are as follows.

- Armhole 20⅞in + 1⅝in ease = 22½in. (Take this measurement from the basic upper body sloper.)
- Sleeve length to wrist = 25¼in. (Taken from the shoulder tip, running down the back of the elbow to the wrist; extra length can be added at this point to suit your design.)
- Top of sleeve cap to elbow length = 13¾in.
- Upper biceps circumference = 16in. (This measurement is taken round the upper arm; extra width “ease” can be added for movement.)
- Cuff measurement = 11¾in. Remove ⅜in from each side to reduce the cuff width from the basic tapered sloper, which is 12⅝in.
- Sleeve cap height = 7in.

- Cut a large piece of drafting paper slightly longer than the length of your sleeve or the arm length of your fit model.
- Draw a 25¼in vertical line down the center and label it *center line*; label the top of this line (1) and the bottom (2). This is the length of the sleeve.
- From (1) measure down 7in (the sleeve cap height, or one-third of the armhole measurement, not including ease) and label point (3).
- From (1) measure down 13¾in (the elbow length) and label point (4).
- Divide the armhole measurement (22½in) by 6 to give 3¾in and add ⅜in volume to give 4⅛in. From (1) square out 4⅛in to the left and to the right and label these points (5) and (6).
- From (2) measure out 4⅛in to the left and to the right and label these points (7) and (8).
- Connect points (5), (6), (7), (8) to form a rectangle.
- Divide the sleeve cap height (7in) by 3 to give 2⅜in. From (6) measure down 2⅜in, make a mark and label it *back notch*. From the back notch square in 1in and mark point (A); this is the top point of the back seam on the undersleeve.
- From (3) square out to the left to intersect the line from (5) to (7) and mark point (B), and square out to the right to intersect the line from (6) to (8) and mark point (C). This is the biceps level.
- From (B) measure out 1in and mark point (D), and measure in 1in and mark point (E). From (C) measure in ⅜in and mark point (F), and measure out ⅜in and mark point (G).
- To establish the front notch on the armhole divide the sleeve cap height (7in) by 2 to give 3½in, and subtract ¾in to give 2¾in. This will ensure a rectangular shape to the sleeve cap instead of the square shape that would occur if the sleeve cap were just divided in half. From (B) measure up 2¾in, make a mark and label it *front notch*.
- From (4) square out to the left to intersect the line from (5) to (7) and mark point (H), and square out to the right to intersect the line from (6) to (8) and mark point (I). This is the elbow level.
- From (H) measure out ⅜in and mark point (J), and measure in 1⅝in and mark point (K).

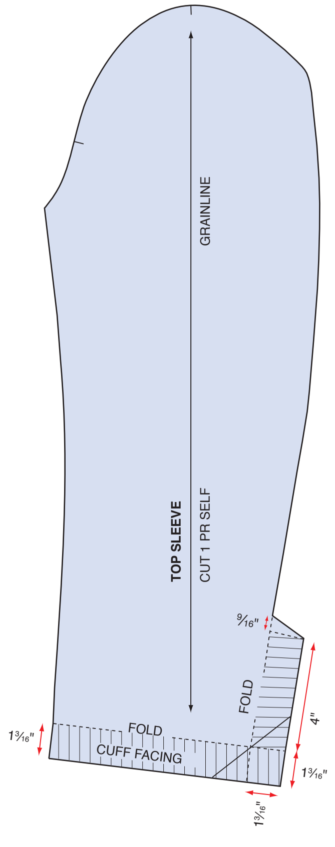


- From (7) measure up 3/4in and from this point measure out 3/4in and mark point (L); this is the top sleeve cuff point. Measure in 3/4in and mark point (M); this is the undersleeve cuff point.
- The cuff circumference is 11 3/4in. Divide this between the top and undersleeve so that the top sleeve cuff width is 6 3/4in and the undersleeve is 5in. This allows the top sleeve seams to fall toward the back of the arm, slightly out of view.
- From (L) draw a line 6 3/4in long to intersect the line from (7) to (8) and mark point (N). From (M) draw a line 5in long to intersect the line from (7) to (8), also at point (N). These are the cuff hemlines.
- Draw in the top sleeve front seam by drawing a blended line connecting the points from (L) through (J) to (D).
- Draw in the undersleeve front seam by drawing a blended line connecting the points from (M) through (K) to (E).
- Using a French curve, draw in the top sleeve cap starting at (D) with a concave curve through the front notch where you reverse the curve to a convex curve up to (1) and back down to the back notch with a similar convex curve.
- Measure the length of this line and compare it to the measurement of the armhole on the front and back patterns. Here the length should be 11 7/8in. Adjust the curves until the line is the correct measurement.
- Using a French curve, draw in the top of the undersleeve with convex curve starting at (E) up to (A).
- Again, measure this line and adjust it until it is the same measurement as the armhole on the front and back patterns—in this case 8 7/8in.
- Draw in the back seam of the top sleeve with a blended line from the back notch through points (G) to (I) and continue down to (N).
- Draw in the back seam of the undersleeve with a blended line from (A) through (F) to (I) and also continue with this seam on the same line as the top sleeve down to (N).

STEP 30

DEVELOPING THE FINAL TOP SLEEVE PATTERN WITH CUFF VENT

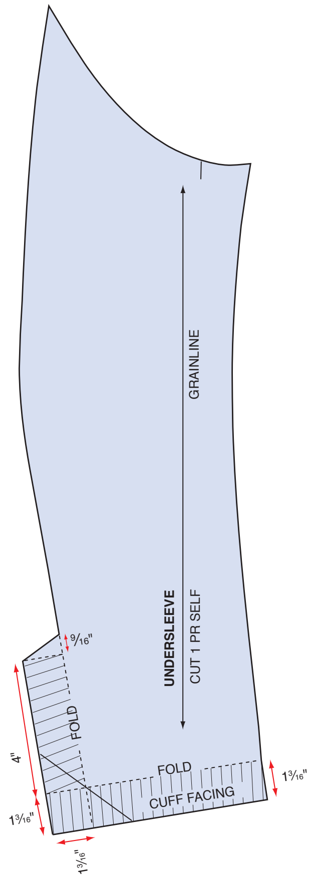
- Following the instructions on page 50, trace off the top sleeve onto a separate piece of paper.
- From the bottom of the sleeve measure down 1 3/16in and draw a rectangular box to create the facing strip.
- Extend the length of the cuff facing by 1 3/16in at the back seam and square up 4in to create a rectangular box 1 3/16in in width. This is the cuff extension.
- Measure a further 9/16in up the back seam and join this point to the outer corner of the box, creating an angle and shape similar to the center back vent.
- The corner is folded to create a mitered corner during construction.



STEP 31

DEVELOPING THE FINAL UNDERSLEEVE PATTERN WITH CUFF VENT

- Trace off the undersleeve onto a separate piece of paper and, following the instructions on page 50, reverse it by turning it over.
- From the bottom of the sleeve measure down $1\frac{3}{16}$in and draw a rectangular box to create the facing strip.
- Extend the length of the cuff facing by $1\frac{3}{16}$in at the back seam and square up 4in to create a rectangular box $1\frac{3}{16}$in in width. This is the cuff extension.
- Measure a further $\frac{9}{16}$in up the back seam and join this point to the outer corner of your rectangular box, creating an angle and shape similar to the center back vent.
- The corner is folded to create a mitered corner during construction.



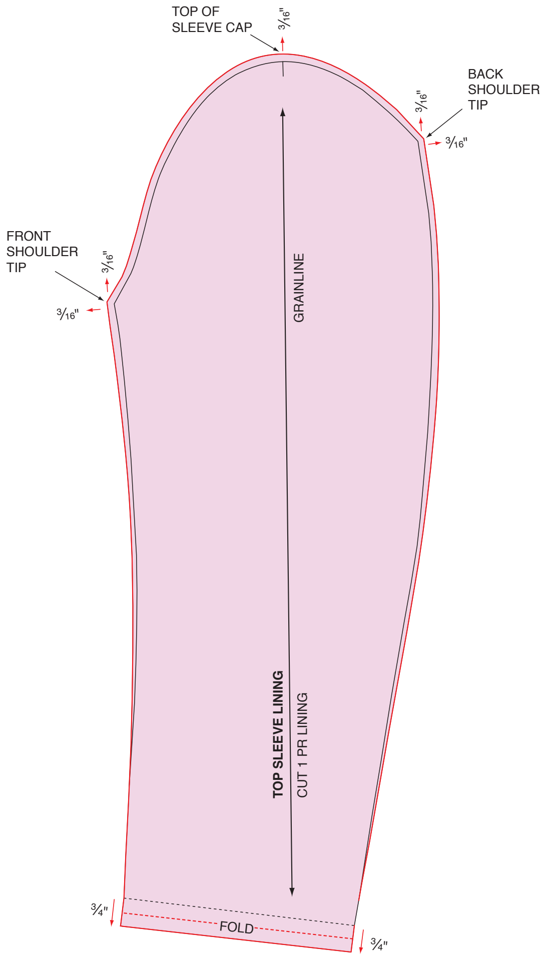
STEP 32

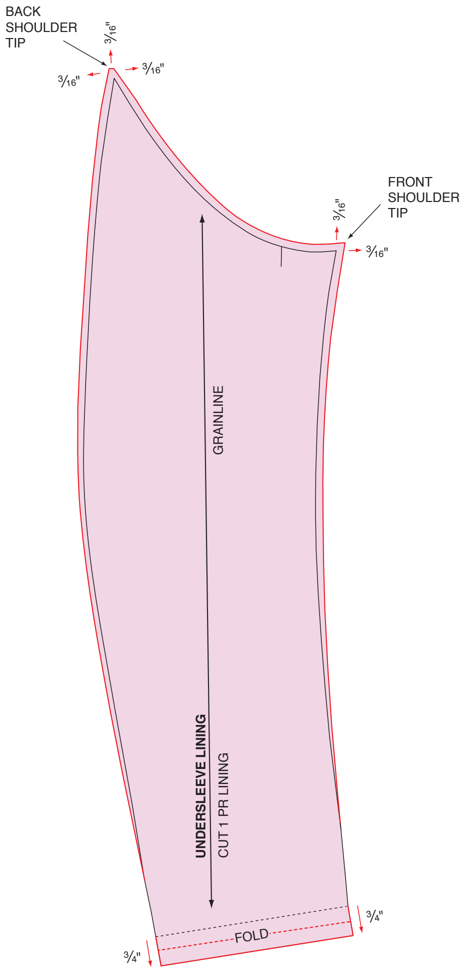
DEVELOPING THE FINAL TWO-PIECE SLEEVE LINING PATTERNS

Matching the measurements

Having enlarged the armhole of the body panel lining, we will now increase the sleeve cap so that the measurements match. At the cuff hem we will increase the length of the lining so that when the arm is raised the lining will not pull the outer sleeve.

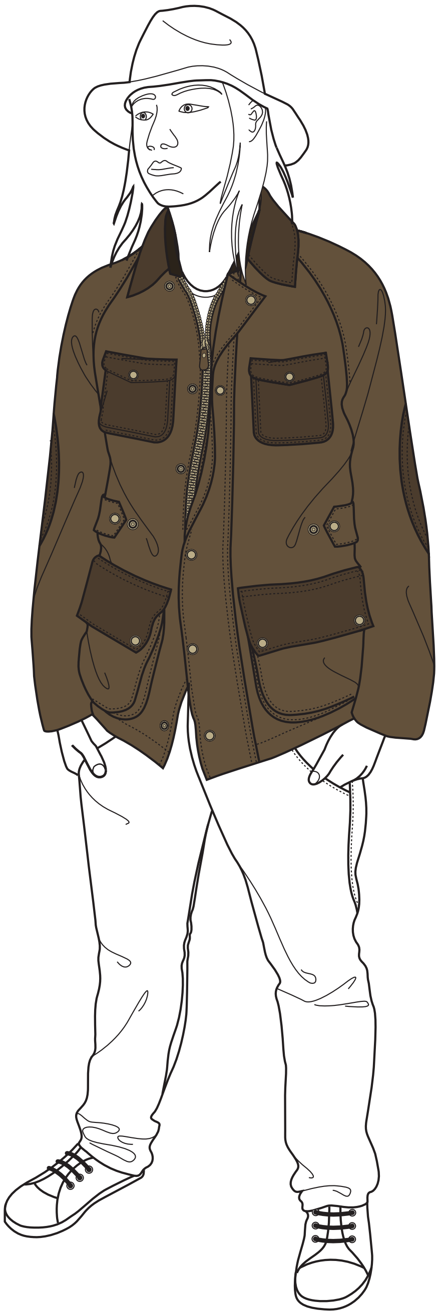
- Following the instructions on page 50, trace off a copy of the top sleeve from the sleeve master plan.
- From the shoulder tip measure up $\frac{3}{16}$in and mark, and from the front and back shoulder tips measure out $\frac{3}{16}$in and mark, and measure up $\frac{3}{16}$in and mark. Find the new points and connect these to new shoulder tip with a curved line.
- From the new shoulder tips draw a line down to blend in with the cuff hem.
- From the cuff hem measure down $\frac{3}{4}$in and square across to increase the length of the lining. Draw a fold line $\frac{3}{8}$in inside the new hemline.
- Following the instructions on page 50, trace off the undersleeve lining pattern.
- At the top of the front and back shoulder tips measure up $\frac{3}{16}$in and mark, and measure out $\frac{3}{16}$in and mark; connect these points with a curved line.
- From the new shoulder tips draw a line down to blend in with the cuff hem.
- From the cuff hem measure down $\frac{3}{4}$in and square across to increase the length of the lining. Draw a fold line $\frac{3}{8}$in inside the new hemline.

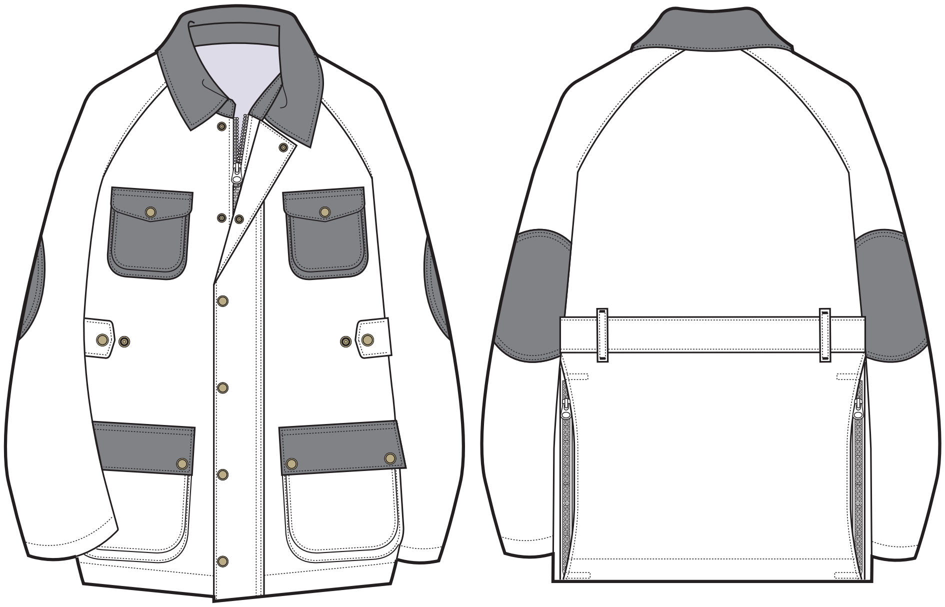

TOP OF SLEEVE CAP
3/16"
BACK SHOULDER TIP
3/16"
3/16"
FRONT SHOULDER TIP
3/16"
3/16"
GRAINLINE
TOP SLEEVE LINING
CUT 1 PR LINING
3/4"
FOLD
3/4"


BACK SHOULDER TIP
3/16"
3/16"
3/16"
FRONT SHOULDER TIP
3/16"
3/16"
GRAINLINE
UNDERSLEEVE LINING
CUT 1 PR LINING
3/4"
FOLD
3/4"

PATTERN

WAXED JACKET



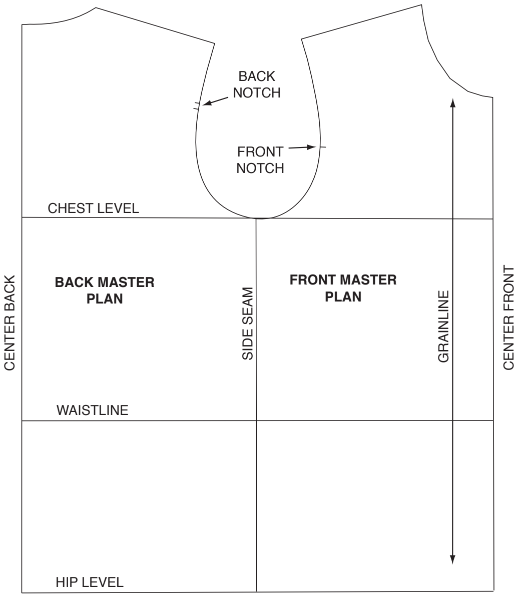


This pattern includes development of the following features:

Adding volume to the side seam
Enlarging the neckline
Creating a sewn-on front placket
Extending the hemline
Creating side vents
Developing a waist belt
Dropping the shoulder
Lowering the armhole
Developing breast and front patch pockets with gussets and flaps
Developing a back envelope pocket with side zipper
Developing a shaped convertible collar with stand
Developing raglan sleeves with elbow patches
Developing a full body lining

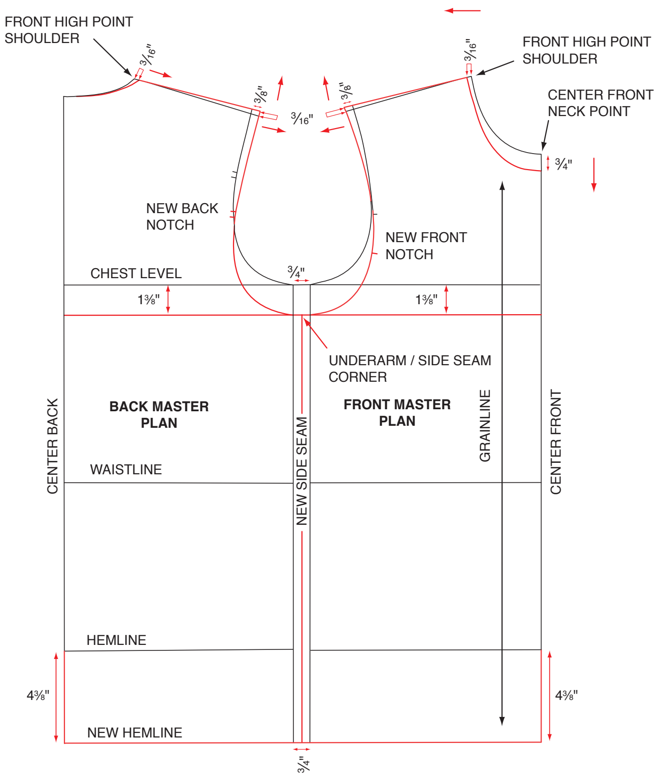
STEP 1
DEVELOPING THE MASTER PLAN

Start by selecting the basic men's upper body sloper, or by drafting the basic sloper according to the instructions on page 40. Cut a large piece of drafting paper slightly longer than the length of the jacket you want to develop and transfer the shape of the sloper and all marks, labels, and instructions, following the directions on page 48.


BACK NOTCH
FRONT NOTCH
CHEST LEVEL
BACK MASTER PLAN
SIDE SEAM
FRONT MASTER PLAN
GRAINLINE
CENTER BACK
CENTER FRONT
WAISTLINE
HIP LEVEL

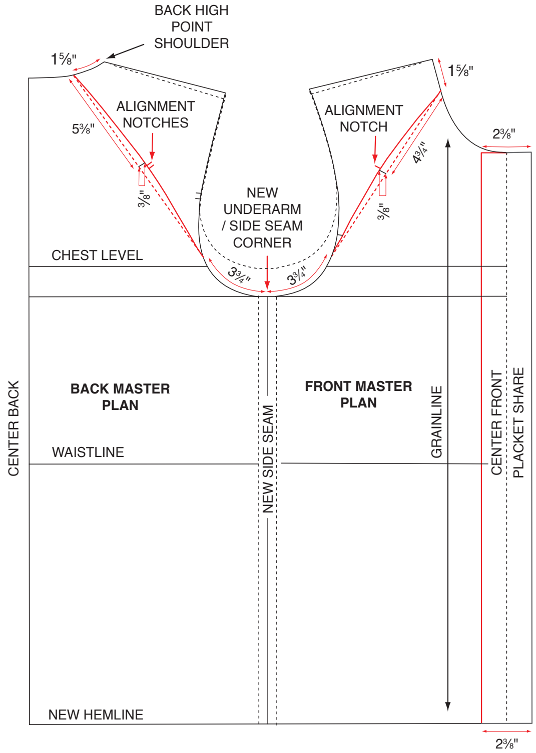
STEP 2
DEVELOPING THE ENLARGED NECK, DROPPED SHOULDER, LOWERED ARMHOLE, AND EXTENDED HEM LENGTH, AND ADDING VOLUME TO THE SIDE SEAM

- From the center front neck point measure down ¾in and at the front high point shoulder measure in 3⁄16in; repeat at the back by measuring in 3⁄16in from the back high point shoulder. Using the basic upper body sloper as a template draw in the new front and back neck curves.
- Open up the side seam by adding in ¾in between the front and back body panels and repositioning.
- From the front and back shoulder tips measure up 3⁄16in and out ⅜in over the armhole and make a mark.
- From the chest level square down 1⅜in on each side and, starting from the new underarm / side seam corner, redraw the new armhole shape using the basic upper body slopers as a template. Draw in the new notch positions on the lowered armhole.
- To create the jacket length, extend the center front and center back lines down by 4⅜in. Square across to create the new hemline and bring down the side seam line to meet it.


FRONT HIGH POINT SHOULDER
3⁄16"
⅜"
3⁄16"
⅜"
3⁄16"
FRONT HIGH POINT SHOULDER
CENTER FRONT NECK POINT
¾"
NEW BACK NOTCH
NEW FRONT NOTCH
CHEST LEVEL
¾"
1⅜"
1⅜"
UNDERARM / SIDE SEAM CORNER
BACK MASTER PLAN
FRONT MASTER PLAN
CENTER BACK
NEW SIDE SEAM
GRAINLINE
CENTER FRONT
WAISTLINE
HEMLINE
4⅜"
4⅜"
NEW HEMLINE
¾"

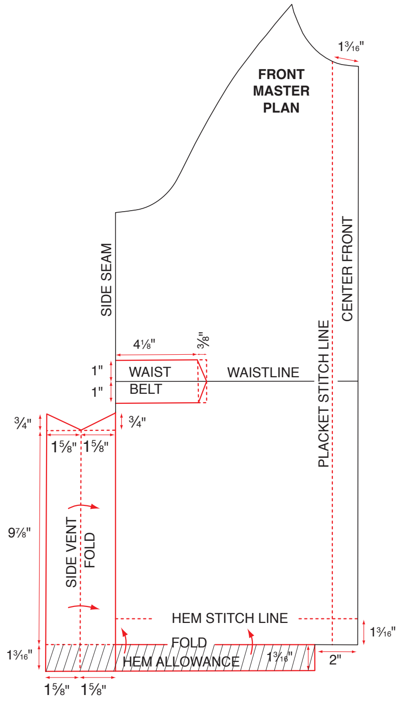
STEP 3
CREATING THE RAGLAN SHOULDER SHAPES AND FRONT PLACKET WIDTH

- From the high point shoulder measure 1⅝in down the back neck curve and 1⅝in down the front neck curve and mark.
- From the new underarm / side seam corner measure 3¾in up the front armhole and make a mark, and measure 3¾in up the back armhole and make a mark.
- From these points draw straight lines up to the marks you made on the front and back neck curves.
- From the back neck curve measure 5⅜in down this line and then square up ⅜in. From the front neck measure 4¾in down the line and then square up ⅜in.
- With a shallow curve, draw another line from the points on the back and front neck curves to the armholes, this time passing through the marks at ⅜in.
- Trace off the shoulder shapes ready to transfer to the sleeve, adding front and back notches for alignment.
- To create the sewn-on placket, square out 1³⁄₁₆in at the center front neck point and mark, and square in 1³⁄₁₆in and mark. Repeat at the new hemline on the center front and mark. Join these points to create the 2⅜in placket shape.


BACK HIGH POINT SHOULDER
1⅝"
1⅝"
ALIGNMENT NOTCHES
5⅜"
⅜"
ALIGNMENT NOTCH
4¾"
⅜"
2⅜"
NEW UNDERARM / SIDE SEAM CORNER
3¾"
3¾"
CHEST LEVEL
CENTER BACK
BACK MASTER PLAN
FRONT MASTER PLAN
WAISTLINE
NEW SIDE SEAM
GRAINLINE
CENTER FRONT
PLACKET SHARE
NEW HEMLINE
2⅜"

STEP 4
DEVELOPING THE PLACKET STITCH LINE, FOLDED HEM ALLOWANCE, SIDE VENT, AND WAIST BELT POSITION

- Trace off onto a separate piece of paper the front body pattern from the previous step without the raglan shape.
- To indicate the stitch line placement for the sewn-on placket draw a dotted line from the neckline to the hemline at a distance of 1³⁄₁₆in in from the center front.
- To indicate the hem allowance stitch line draw a dotted line 1³⁄₁₆in above the hemline.
- From the center front measure in 2in along the hem and then square down 1³⁄₁₆in; this is the starting point for the hem allowance.
- Extend the hem allowance along to the side seam and square up. At this point measure out 1⅝in plus a further 1⅝in; this is the side vent width with a central fold line.
- From the top of the hem allowance at the end of the side vent square up 9⅞in and then square back to the side seam; this is the side vent length.
- On top of the vent length measure up ¾in; from this point draw a line back to the side vent fold line and then angle back up to meet the side seam at the same ¾in height.
- To develop the waist belt position measure up and down 1in on the side seam each side of the waistline; this is the belt width. From these points create a rectangle 2in wide by 4½in long along the waistline. From the front of the rectangle, measure back ⅜in either side and draw two lines back down to the center to create the waist belt tip.

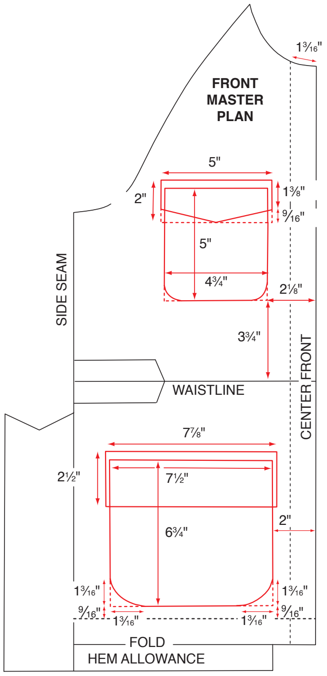

1³⁄₁₆"
FRONT MASTER PLAN
SIDE SEAM
CENTER FRONT
4⅛"
⅜"
1"
1"
WAIST BELT
WAISTLINE
PLACKET STITCH LINE
¾"
¾"
1⅝"
1⅝"
9⅞"
SIDE VENT FOLD
HEM STITCH LINE
1³⁄₁₆"
FOLD
1³⁄₁₆"
HEM ALLOWANCE
1³⁄₁₆"
2"
1⅝"
1⅝"

STEP 5
DEVELOPING FRONT PATCH POCKET PARTS AND POSITIONS

Matching the measurements

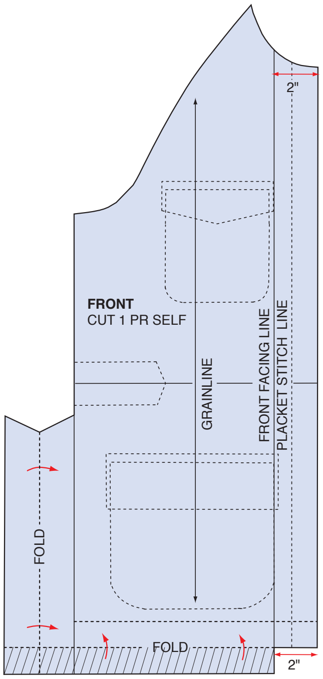
Having enlarged the armhole of the body panel lining, we will now increase the sleeve cap so that the measurements match. At the cuff hem we will increase the length of the lining so that when the arm is raised the lining will not pull the outer sleeve.

- Trace off onto a separate piece of paper the front body pattern from the previous step.
- To establish the position of the front breast patch pocket bag, measure $3\frac{3}{4}$in up from the waistline and $2\frac{1}{8}$in in from the center front and mark; this is the bottom right corner of your pocket bag.
- From this point create a rectangle 5in high by $4\frac{3}{4}$in wide; this is the pocket bag shape. Round off the bottom corners.
- The breast pocket flap position sits $\frac{3}{8}$in above the bag and is $\frac{3}{16}$in wider on each side. Measure up $\frac{3}{8}$in above the pocket bag and from this point create a rectangle 5in long and 2in wide sitting over the pocket bag. From the bottom line of the rectangle measure up $\frac{9}{16}$in on each side and draw two lines back down to the center to create an envelope point to the pocket flap.
- To develop the lower waist pocket bag shape underneath the waistline, measure $\frac{9}{16}$in up from the facing stitch line and 2in in from the center front and make a mark; this is the bottom right corner of the pocket bag.
- From this point create a rectangle $6\frac{3}{4}$in high by $7\frac{1}{2}$in wide; this is your pocket bag shape. Round off the bottom corners by measuring $1\frac{3}{16}$in up and in from each corner.
- The lower pocket flap position sits $\frac{3}{8}$in above the bag and is $\frac{3}{16}$in wider on each side edge. Measure up $\frac{3}{8}$in above the pocket bag and from this point create a rectangle $7\frac{7}{8}$in long and $2\frac{1}{2}$in wide sitting over the pocket bag.


1 3/16"
FRONT MASTER PLAN
5"
2"
1 3/8"
9/16"
5"
4 3/4"
2 1/8"
SIDE SEAM
3 3/4"
WAISTLINE
CENTER FRONT
7 7/8"
2 1/2"
7 1/2"
6 3/4"
2"
1 3/16"
9/16"
1 3/16"
1 3/16"
1 3/16"
9/16"
FOLD
HEM ALLOWANCE

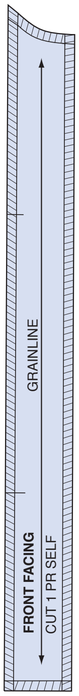
STEP 6
FRONT PATTERN AND DEVELOPING THE FRONT FACING

- Following the instructions on page 50, trace off the front body pattern, annotating all the positions needed for pockets and belt.
- Draw a vertical dotted line from the neckline to the hemline at a distance of 2in from the center front line; this will become the width of the facing pattern.


2"
FRONT
CUT 1 PR SELF
GRAINLINE
FRONT FACING LINE
PLACKET STITCH LINE
FOLD
FOLD
2"

STEP 7
FRONT FACING PATTERN

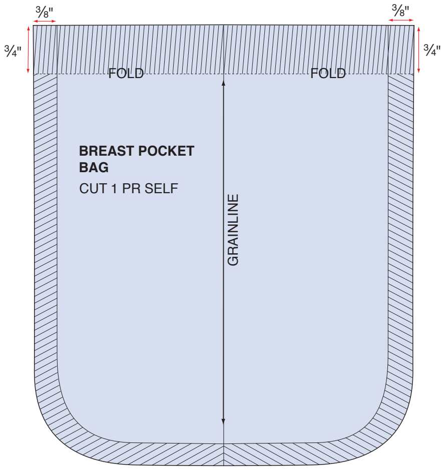
- Following the instructions on page 50, trace off the front facing, adding alignment notches and a $\frac{3}{8}$in seam allowance on all sides to create the final pattern.

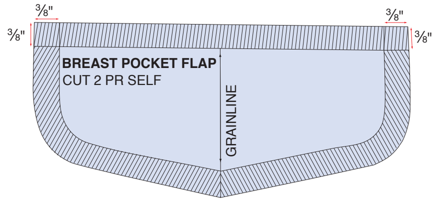

GRAINLINE
FRONT FACING
CUT 1 PR SELF

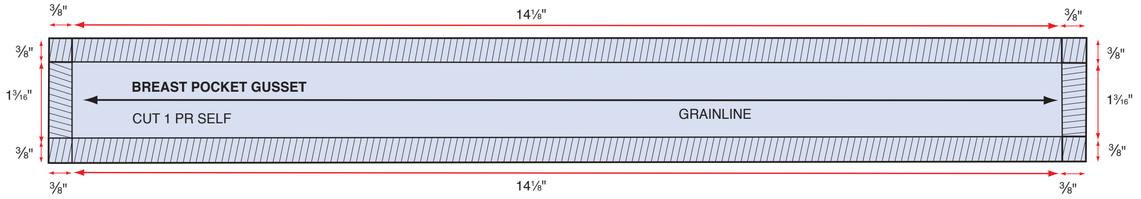
STEP 8

FRONT BREAST PATCH POCKET PATTERNS WITH GUSSET

- Following the instructions on page 50, trace off the breast pocket flap pattern; add a 3/8in seam allowance on all sides.
- Following the instructions on page 50, trace off the breast pocket bag pattern, adding a 3/8in seam allowance all around the outside edge and a 3/4in facing strip to the top opening edge, which will be folded into the bag.
- The measurements to develop the gusset on the breast patch pocket bag are taken by measuring around the outside edge of the bag shape that will be stitched down to the jacket body—in this case 14 1/8in. Draw the gusset as a long rectangular shape, 14 1/8in long by 1 3/16in wide, and add a 3/8in seam allowance on all sides.


3/8"
3/8"
3/4"
3/4"
FOLD
FOLD
BREAST POCKET BAG
CUT 1 PR SELF
GRAINLINE

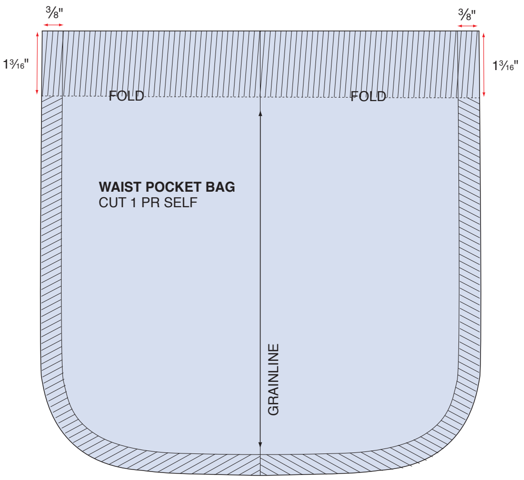

3/8"
3/8"
3/8"
3/8"
BREAST POCKET FLAP
CUT 2 PR SELF
GRAINLINE

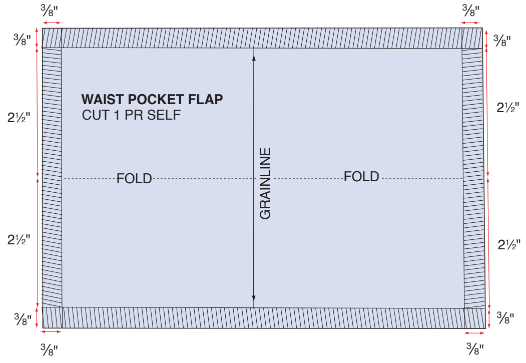

3/8"
14 1/8"
3/8"
3/8"
1 3/16"
3/8"
BREAST POCKET GUSSET
CUT 1 PR SELF
GRAINLINE
3/8"
1 3/16"
3/8"
3/8"
14 1/8"
3/8"

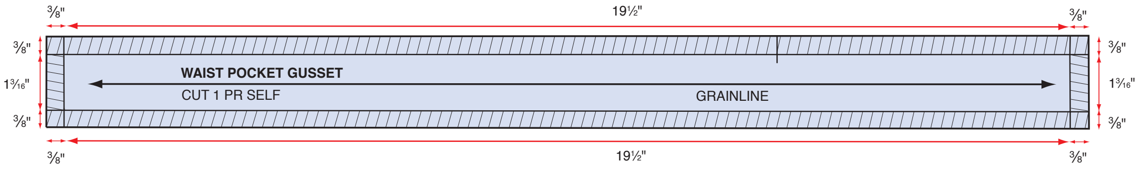
STEP 9

FRONT WAIST PATCH POCKET PATTERNS WITH GUSSET

- Following the instructions on page 50, trace off the waist pocket flap pattern, doubling it over along the length to make a folded pattern and adding a 3/8in seam allowance on all sides.
- Following the instructions on page 50, trace off the waist pocket bag pattern, adding a 3/8in seam allowance all around the outside edge and a 1 3/16in facing strip to the top opening edge, which will be folded into the bag.
- The measurements to develop the gusset on the breast patch pocket bag are taken by measuring around the outside edge of the bag shape that will be stitched down to the jacket body—in this case 19 1/2in. Draw the gusset as a long rectangular shape, 19 1/2in long by 1 3/16in wide, and add a 3/8in seam allowance on all sides.


3/8"
3/8"
1 3/16"
1 3/16"
FOLD
FOLD
WAIST POCKET BAG
CUT 1 PR SELF
GRAINLINE

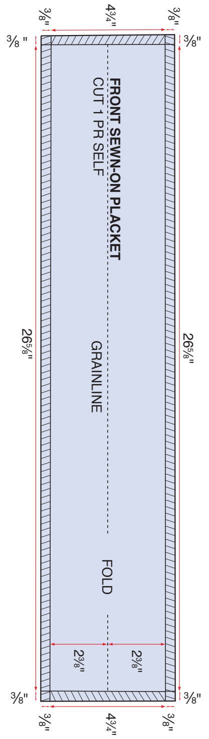

3/8"
3/8"
3/8"
3/8"
WAIST POCKET FLAP
CUT 1 PR SELF
2 1/2"
2 1/2"
FOLD
FOLD
GRAINLINE
2 1/2"
2 1/2"
3/8"
3/8"
3/8"
3/8"


3/8"
19 1/2"
3/8"
3/8"
1 3/16"
3/8"
WAIST POCKET GUSSET
CUT 1 PR SELF
GRAINLINE
3/8"
1 3/16"
3/8"
3/8"
19 1/2"
3/8"

STEP 10

FRONT SEWN-ON PLACKET PATTERN

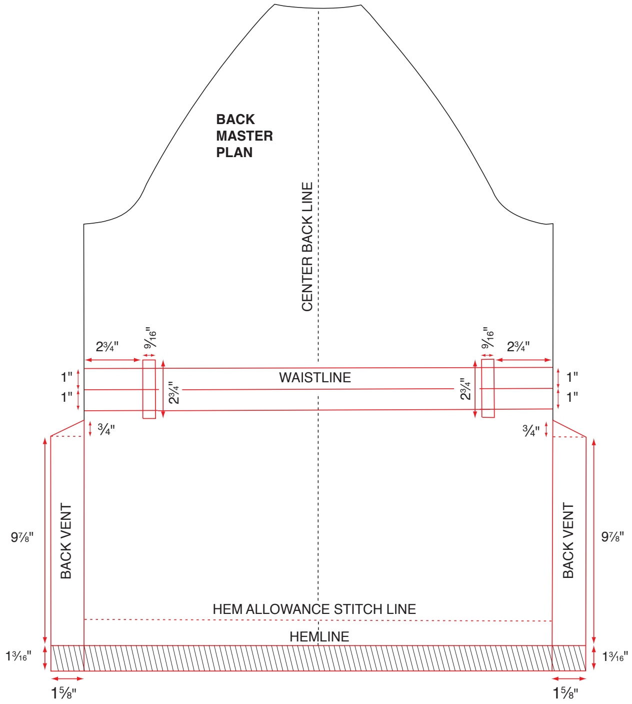
- On a separate piece of paper, draw a horizontal box 4¾in wide by 26⅝in long (the length of the center front) to create the rectangular-shaped placket.
- Divide the box in half lengthways, draw a line down the center, and label it *fold*. Add a ⅜in seam allowance on all sides.


⅜"
4¾"
⅜"
⅜"
⅜"
FRONT SEWN-ON PLACKET
CUT 1 PR SELF
26⅝"
GRAINLINE
26⅝"
FOLD
2⅜"
2⅜"
⅜"
⅜"
⅜"
4¾"
⅜"

STEP 11

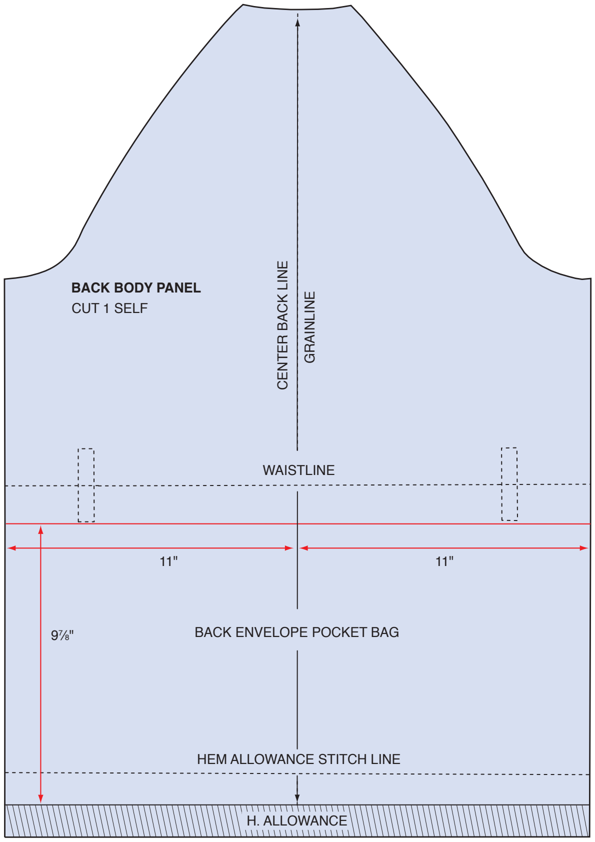
DEVELOPING THE BACK SIDE VENTS, HEM ALLOWANCE, AND WAIST BELT POSITION

- Trace off the back body without the raglan shape onto a new piece of paper and, following the instructions on page 50, create the full pattern shape.
- From the hemline corners square down 1 3⁄16in and square across to create the facing.
- Repeat this above the hemline by squaring up 1 3⁄16in, and indicate the hem stitch line with a dotted line.
- Extend the hem allowance line and the hemline out from the side seam at both ends by 1⅝in; this is the vent width.
- From each end of the extended hemline square up 9⅞in and square back to the side seam; this is the vent length.
- On the top of the vent length measure ¾in up the side seam and from this point draw an angled line back down to the vent corner.
- To develop the waist belt position square up 1in and down 1in each side of the waistline to establish the belt width. From these points create a rectangle by connecting the points across the back.
- To position the belt loops, from the side seam on each side measure 2¾in along the waistline and draw two rectangles 9⁄16in wide by 2¾in long centered over the waistline.


BACK
MASTER
PLAN
CENTER BACK LINE
2¾"
9⁄16"
9⁄16"
2¾"
1"
1"
WAISTLINE
2¾"
2¾"
1"
1"
¾"
¾"
9⅞"
BACK VENT
BACK VENT
9⅞"
HEM ALLOWANCE STITCH LINE
HEMLINE
1 3⁄16"
1 3⁄16"
1⅝"
1⅝"

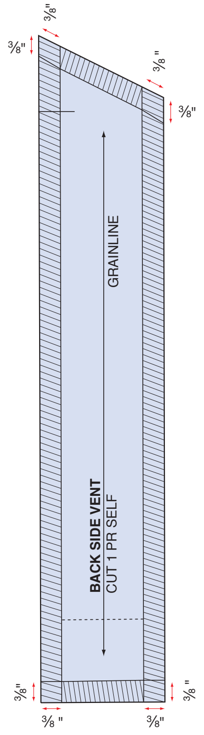
STEP 12
BACK BODY PANEL PATTERN

- Following the instructions on page 50, trace off the back body pattern without the side vents, which will be sewn on as part of the back envelope pocket bag, annotating all the positions for belt and loops.
- Add the position of the back envelope pocket by measuring 9⅞in up from the hemline on both sides and squaring across to create a rectangle 22in wide by 9⅞in high.


BACK BODY PANEL
CUT 1 SELF
CENTER BACK LINE
GRAINLINE
WAISTLINE
11"
11"
9⅞"
BACK ENVELOPE POCKET BAG
HEM ALLOWANCE STITCH LINE
H. ALLOWANCE

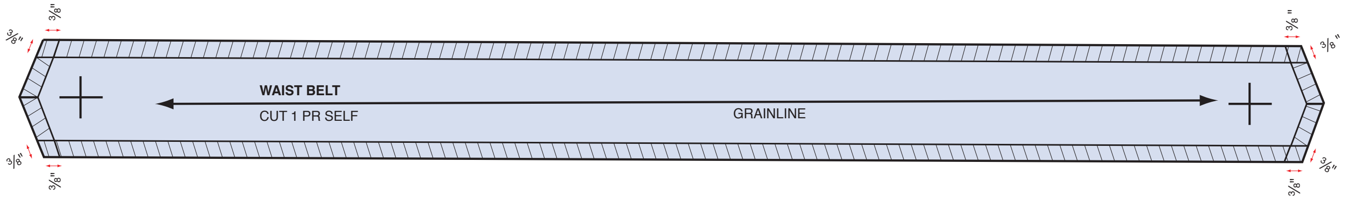
STEP 13
BACK SIDE VENT PATTERN

- Following the instructions on page 50, trace off the side vent pattern and add a ⅜in seam allowance on all sides to create the final pattern.


⅜"
⅜"
⅜"
⅜"
GRAINLINE
BACK SIDE VENT
CUT 1 PR SELF
⅜"
⅜"
⅜"
⅜"

STEP 14
DEVELOPING THE WAIST BELT PATTERN

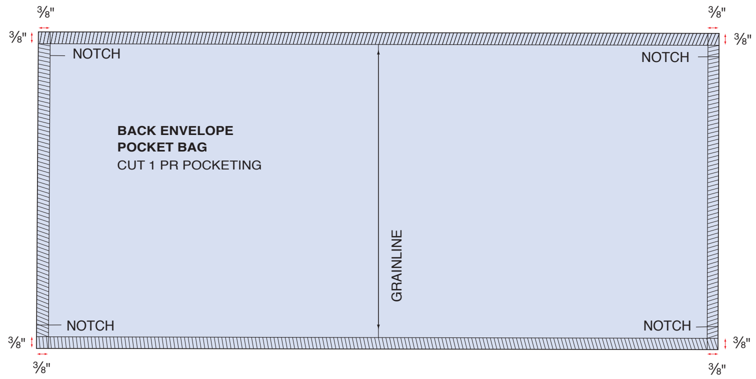
- To create the waist belt trace off from Step 4 the front ends of the belt and from Step 11 the middle section, constructing a rectangle 2in wide by 31½in long. Add a ⅜in seam allowance on all sides to create the final pattern.


⅜"
⅜"
WAIST BELT
CUT 1 PR SELF
GRAINLINE
⅜"
⅜"
⅜"
⅜"
⅜"
⅜"

STEP 15

BACK ENVELOPE POCKET BAG PATTERN

- Following the instructions on page 50, trace off the final back envelope pocket bag from Step 12. Add a 3/8in seam allowance on all sides.



⅜"
⅜"
⅜"
⅜"
NOTCH
NOTCH
BACK ENVELOPE
POCKET BAG
CUT 1 PR POCKETING
GRAINLINE
NOTCH
NOTCH
⅜"
⅜"
⅜"
⅜"

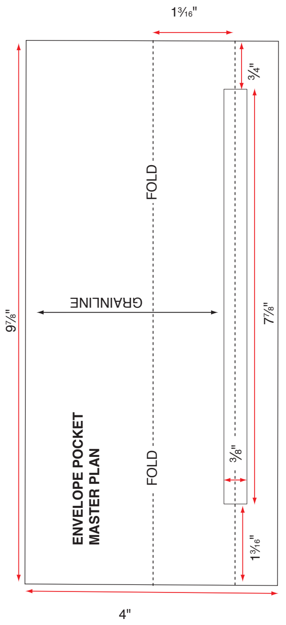
STEP 16

DEVELOPING THE TOP AND UNDER ENVELOPE POCKET FACING WITH ZIPPER OPENING

Envelope pocket

The envelope, or poacher's, pocket in this design has identical zipped openings on both the left- and right-hand sides so it can be used from either side of the jacket. The pocket openings have a folded facing with the zipper attached to the under or lining side of the opening.

- The facing for the pocket's opening is constructed as a folding rectangle, 4in wide by 9 7/8in long. Divide in half lengthways, adding a fold line down the middle.
- To divide again for the insertion of a 7 7/8in closed-end zipper, measure out 1 3/16in from each end of the fold line and square across. Measure in 1 3/16in along this line from the bottom and mark and 3/4in from the top and mark. This is the opening for the zipper.
- Create a stepped opening by drawing a rectangle 7 7/8in long by 3/8in wide, centered along the opening.

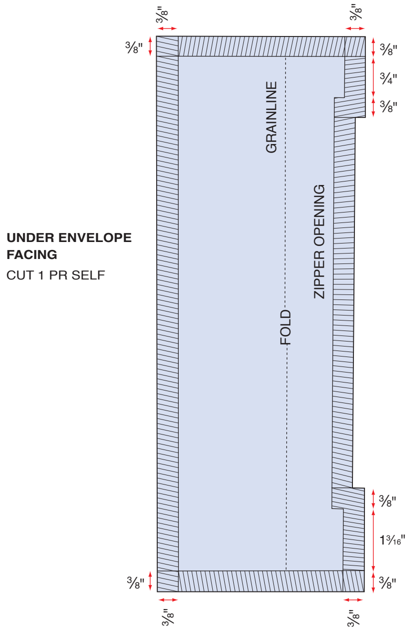


1³⁄₁₆"
¾"
FOLD
GRAINLINE
9⅞"
7⅞"
ENVELOPE POCKET
MASTER PLAN
FOLD
⅜"
1³⁄₁₆"
4"

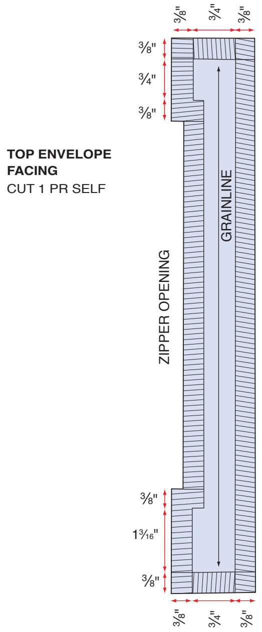
STEP 17

TOP AND UNDER ENVELOPE POCKET FACING PATTERNS

- Following the instructions on page 50, trace off the two parts of the back envelope facing patterns, and add a 3/8in seam allowance on all sides on both patterns.



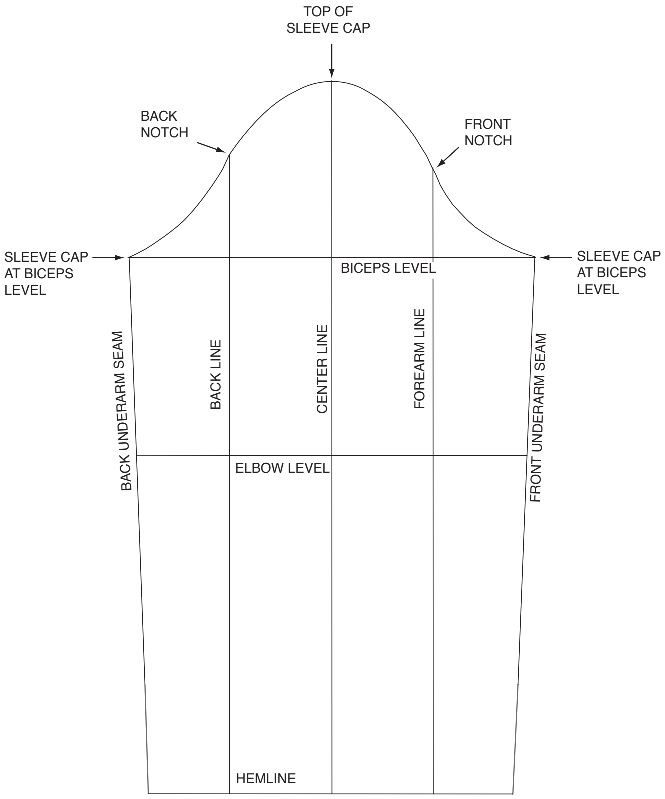
⅜"
⅜"
⅜"
⅜"
¾"
⅜"
GRAINLINE
ZIPPER OPENING
UNDER ENVELOPE
FACING
CUT 1 PR SELF
FOLD
⅜"
1³⁄₁₆"
⅜"
⅜"
⅜"
⅜"



⅜"
¾"
⅜"
⅜"
¾"
⅜"
TOP ENVELOPE
FACING
CUT 1 PR SELF
GRAINLINE
ZIPPER OPENING
⅜"
1³⁄₁₆"
⅜"
⅜"
¾"
⅜"

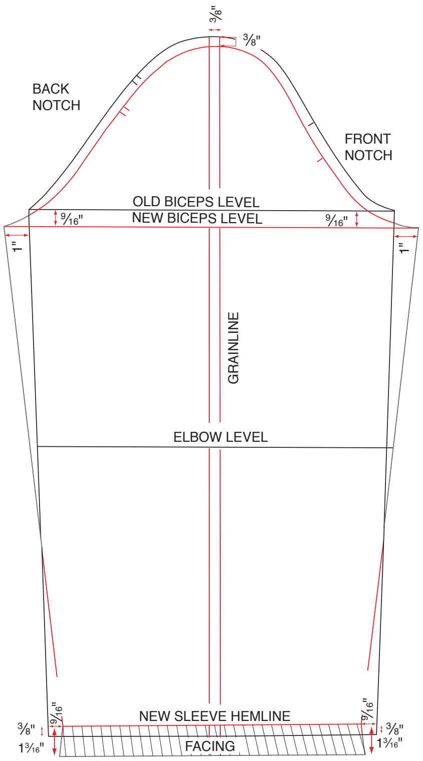
STEP 18
SLEEVE MASTER PLAN

Start this development by selecting the basic men's sleeve sloper, or by drafting the basic sleeve sloper according to the instructions on page 42. Cut a large piece of drafting paper slightly longer than the length of the shirt you want to develop and transfer the shape of the sloper and all marks, labels, and instructions, following the directions on page 48.


TOP OF SLEEVE CAP
BACK NOTCH
FRONT NOTCH
SLEEVE CAP AT BICEPS LEVEL
SLEEVE CAP AT BICEPS LEVEL
BICEPS LEVEL
BACK UNDERARM SEAM
BACK LINE
CENTER LINE
FOREARM LINE
FRONT UNDERARM SEAM
ELBOW LEVEL
HEMLINE

STEP 19
DEVELOPING THE SLEEVE MASTER PLAN

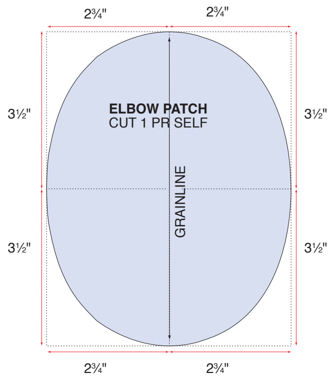
- Draw round the basic sleeve sloper, opening it up along the center line by 3⁄8in.
- From the shoulder tip measure down 3⁄8in, the amount by which you extended the shoulder on the body panel.
- From the biceps level square down 9⁄16in, half of the amount by which you dropped the armhole; redraw the new biceps level position, extending it by 1in on each side.
- Using the basic sleeve sloper as a template, redraw the new sleeve cap indicating the lowered notches.
- To shape the sleeve hemline, measure 3⁄8in up each underarm seam and 9⁄16in in on each side and mark.
- From these points draw in the new underarm seams, connecting them back up to the extended biceps level.
- From the new sleeve hemline square down 13⁄16in to create the facing shape, pitching out at each side to reflect the sleeve seams when folded.


3⁄8"
3⁄8"
BACK NOTCH
FRONT NOTCH
OLD BICEPS LEVEL
NEW BICEPS LEVEL
9⁄16"
9⁄16"
1"
1"
GRAINLINE
ELBOW LEVEL
NEW SLEEVE HEMLINE
9⁄16"
9⁄16"
3⁄8"
13⁄16"
FACING
3⁄8"
13⁄16"

STEP 20

DEVELOPING THE ELBOW PATCH PATTERN

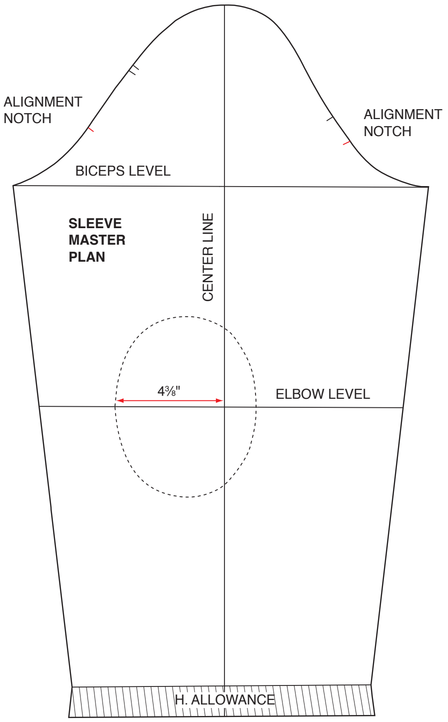
- Construct a rectangle 7in long by 5½in wide. Divide the shape into four quarters, each 3½in by 2¾in. Using a French curve create an oval-shaped elbow patch.

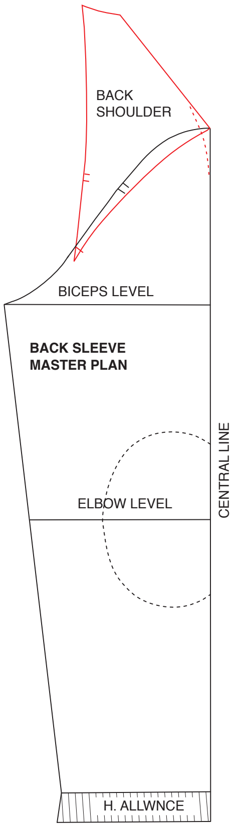

2¾"
2¾"
3½"
3½"
3½"
3½"
ELBOW PATCH
CUT 1 PR SELF
GRAINLINE
2¾"
2¾"

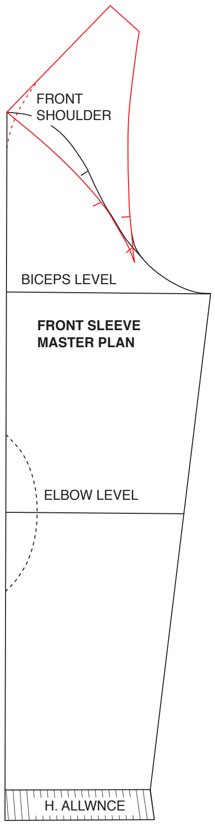
STEP 21

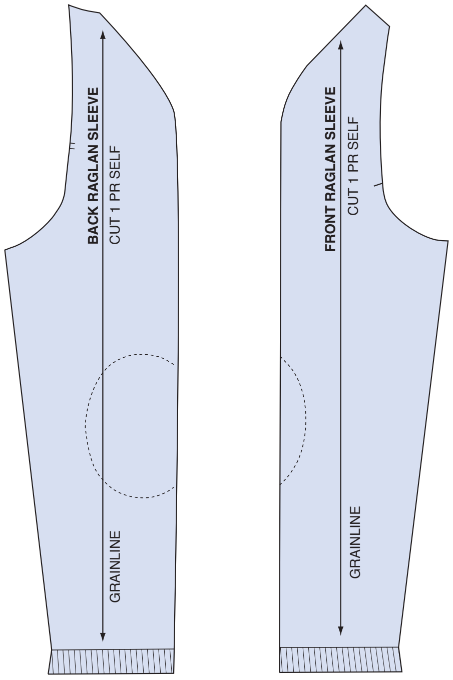
DEVELOPING THE RAGLAN PANEL SLEEVE

- Before you can separate the sleeve for the raglan you need to establish the elbow patch position. Trace off the sleeve pattern from Step 19. From the center line along the elbow level measure 4⅜in out into the back sleeve and mark. Align one side of the elbow patch pattern to this point and, using the pattern as a template, draw in the patch position.
- Separate the sleeve into two halves, naming them front and back.
- Trace off the back raglan shape from Step 3. Add to the sleeve cap by placing the shoulder tips together at the new shoulder tip and aligning the tips of the raglan to the sleeve cap lines.
- Trace off the front raglan shape from Step 3. Add to the sleeve cap by placing the shoulder tips together at the new shoulder tip and aligning the tips of the raglan to the sleeve cap lines.
- It is important that the raglan sleeve panels have a fluid line. To do this, shape the shoulder tip and the points where the raglan shapes join the sleeve cap with shallow curves.


ALIGNMENT NOTCH
ALIGNMENT NOTCH
BICEPS LEVEL
SLEEVE MASTER PLAN
CENTER LINE
4⅜"
ELBOW LEVEL
H. ALLOWANCE


BACK SHOULDER
BICEPS LEVEL
BACK SLEEVE MASTER PLAN
CENTRAL LINE
ELBOW LEVEL
H. ALLWNCE


FRONT SHOULDER
BICEPS LEVEL
FRONT SLEEVE MASTER PLAN
ELBOW LEVEL
H. ALLWNCE

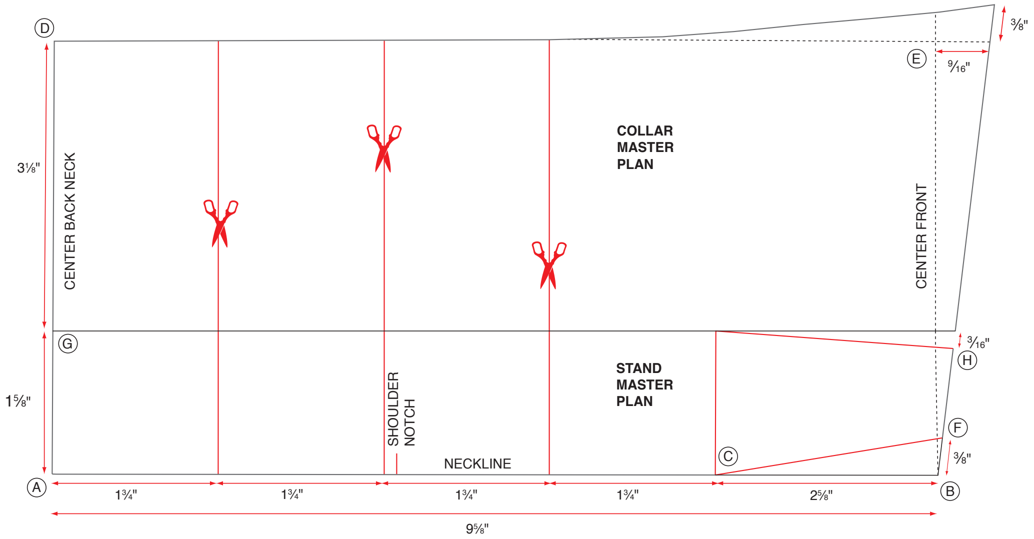

BACK RAGLAN SLEEVE
CUT 1 PR SELF
GRAINLINE
FRONT RAGLAN SLEEVE
CUT 1 PR SELF
GRAINLINE

STEP 22
RAGLAN PANEL SLEEVE PATTERNS

- Following the instructions on page 50, trace off the front and back raglan panels as separate patterns.

STEP 23
DEVELOPING THE SHAPED CONVERTIBLE COLLAR WITH STAND

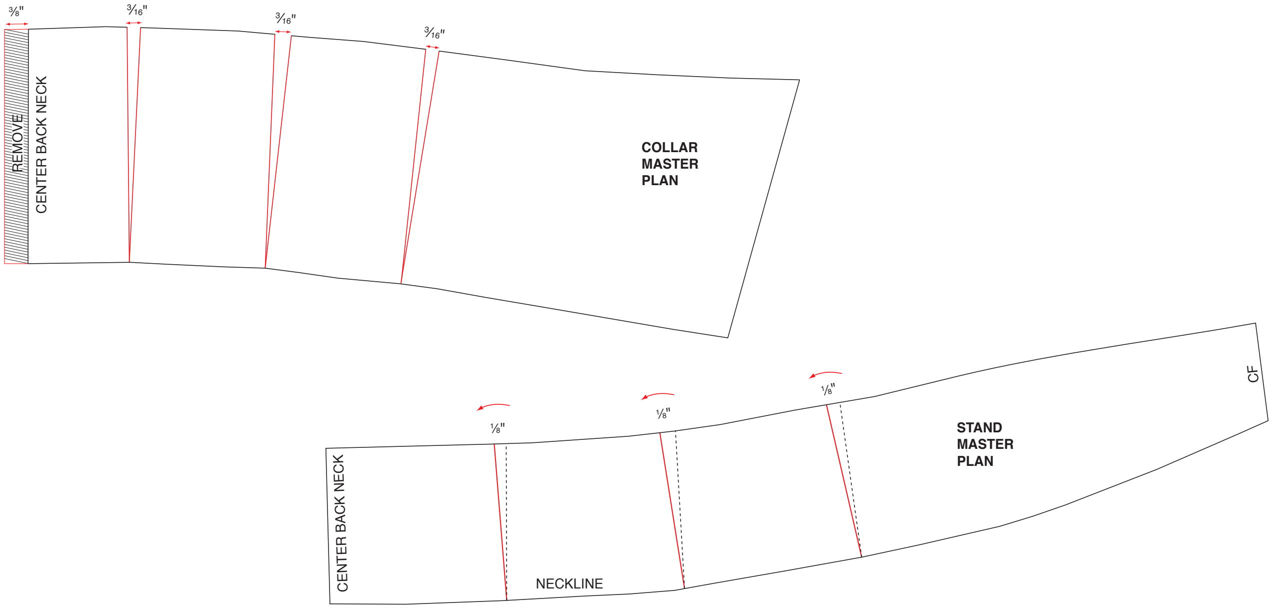
- On a new piece of paper draw a 9⅝in horizontal line and mark the left end (A) and the right end (B). This is the neckline.
- From (A) square up 1⅝in and mark (G), and a further 3⅛in and mark (D). This is the center back neck.
- Finish drawing the rectangle by marking the top right corner (E) and connecting it down to (B).
- To shape the stand, measure up ⅜in from (B) and mark (F). From (B) square in 2⅝in and mark (C). Join to (F) with an angled line.
- From (E) square out 9⁄16in and draw an angled line down to (F). Measure a further ⅜in up to create the collar point. From the collar point draw a curved line back toward (D).
- From (G) square across to the angled front edge, and from (C) square up to this horizontal line. Measure down 3⁄16in from where the line from (G) intersects the angled front edge and mark (H). Connect (H) back to the point above (C) with a slight curve.
- Starting from (A) make three marks along the neckline at a distance of 1¾in apart, and square up from each mark to the top line of the rectangle to make three cut lines.


D
⅜"
E
9⁄16"
COLLAR
MASTER
PLAN
3⅛"
CENTER BACK NECK
CENTER FRONT
G
3⁄16"
H
STAND
MASTER
PLAN
1⅝"
SHOULDER
NOTCH
F
C
⅜"
NECKLINE
A
1¾"
1¾"
1¾"
1¾"
2⅝"
B
9⅝"

STEP 24

SEPARATING AND SHAPING THE STAND AND COLLAR

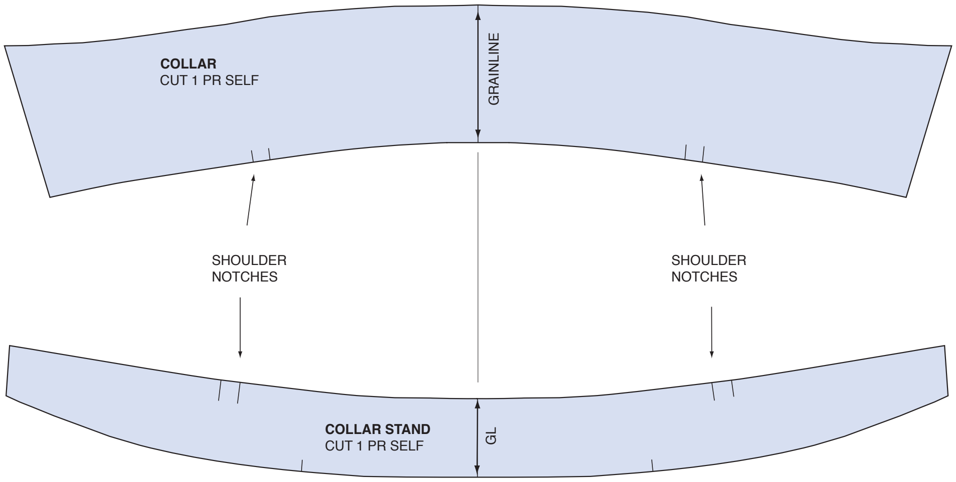
- Remove the stand shape from the development by tracing onto a separate piece of paper, including the vertical cut lines.
- Remove the collar shape from the development by tracing onto a separate piece of paper. Trace across the cut lines from the stand.
- Cut down the vertical lines on the collar shape, leaving them attached at the bottom by a fraction of an inch. Starting from the center back open out each line by 3⁄16in, curving down the collar. From the center back remove 3⁄8in width, which is the amount lost by closing the stand up.
- Cut down the vertical lines on the stand shape, leaving them attached at the bottom by a fraction of an inch. Overlap the tops by 1⁄8in toward the center back so that it brings up the neckline.


3⁄8"
3⁄16"
3⁄16"
3⁄16"
REMOVE
CENTER BACK NECK
COLLAR
MASTER
PLAN
1⁄8"
1⁄8"
1⁄8"
CF
STAND
MASTER
PLAN
CENTER BACK NECK
NECKLINE

STEP 25

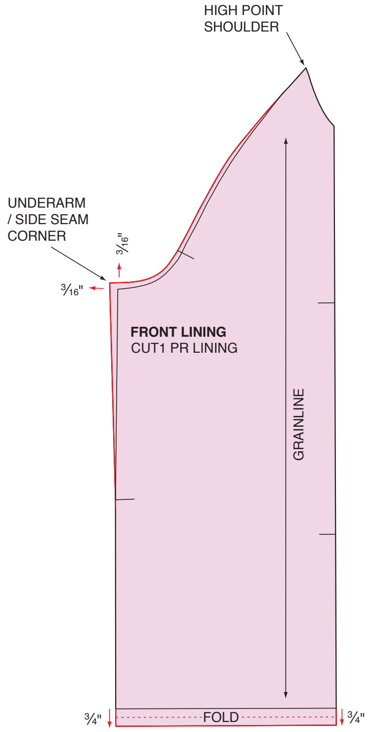
COLLAR STAND AND COLLAR PATTERNS

- Trace off the collar stand and, following the instructions on page 50, create the full pattern shape.
- Trace off the collar pattern and, following the instructions on page 50, create the full pattern shape.


COLLAR
CUT 1 PR SELF
GRAINLINE
SHOULDER
NOTCHES
SHOULDER
NOTCHES
COLLAR STAND
CUT 1 PR SELF
GL

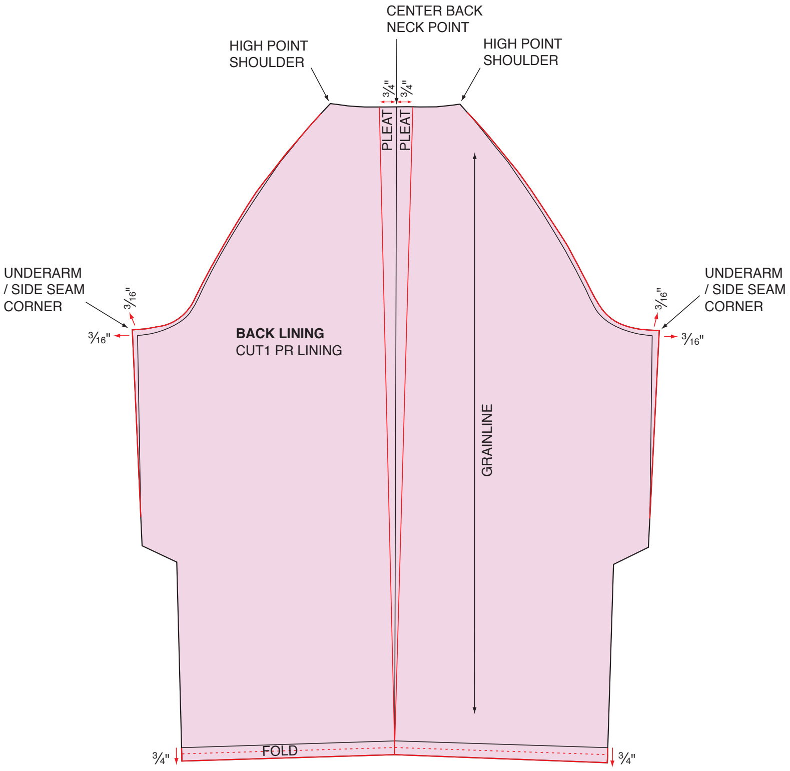
STEP 26
DEVELOPING THE FRONT LINING

- Following the instructions on page 50, trace off a copy of the front body from the pattern in Step 6. Remove the side vent, placket shape, and hem allowance.
- Next you need to add ease by increasing the armhole width to allow for movement. From the underarm / side seam corner measure up 3/16in and mark, and out 3/16in and mark. Find the new underarm / side seam corner and draw a line, blending it back up to the high point shoulder.
- To extend the length and give the lining an overlap at the hemline measure down 3/8in from the hemline and square across, labeling the line *fold*, and measure down a further 3/8in and square across, to give a 3/4in overlap.
- From the new underarm / side seam corner blend the side seam down to meet the original hemline.


HIGH POINT SHOULDER
UNDERARM / SIDE SEAM CORNER
3/16"
3/16"
FRONT LINING
CUT1 PR LINING
GRAINLINE
3/4"
FOLD
3/4"

STEP 27
DEVELOPING THE BACK LINING

- Following the instructions on page 50, trace off a copy of the half back body from Step 12. Before mirroring the shape over to create a full pattern, you need to add ease to the center back to allow the lining to expand across the shoulderblades and also to increase the armhole to allow for movement.
- From the center back neck point measure out 3/4in and connect this point to the hemline; this will become the pleat at the center back neck.
- Double over the shape to create the full pattern. Remove the side vent and its negative shape in the body of the lining itself.
- On each side, from the underarm / side seam corner measure up 3/16in and out 3/16in and mark. Find the new corner and connect back up to the high point shoulder.
- To extend the length and give the lining an overlap at the hemline measure down 3/8in from the hemline and square across, labeling the line *fold*, and measure down a further 3/8in and square across, to give a 3/4in overlap.
- From the new underarm corner blend the side seam down to meet the vent.


CENTER BACK NECK POINT
HIGH POINT SHOULDER
HIGH POINT SHOULDER
3/4"
3/4"
PLEAT
PLEAT
UNDERARM / SIDE SEAM CORNER
3/16"
3/16"
UNDERARM / SIDE SEAM CORNER
3/16"
3/16"
BACK LINING
CUT1 PR LINING
GRAINLINE
3/4"
FOLD
3/4"

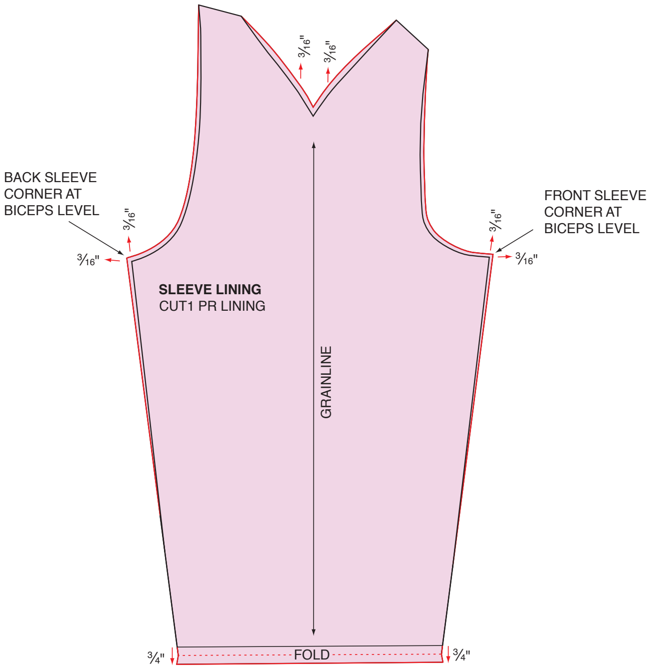
STEP 28

DEVELOPING THE SLEEVE LINING

Matching the measurements

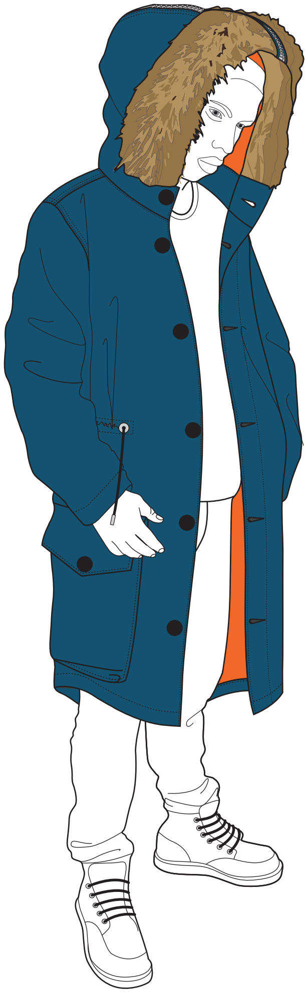
Having enlarged the armhole lining, we will now increase the sleeve cap so that the measurements match. At the cuff hem we will increase the length of the lining so that when the arm is raised the lining will not pull the outer sleeve.

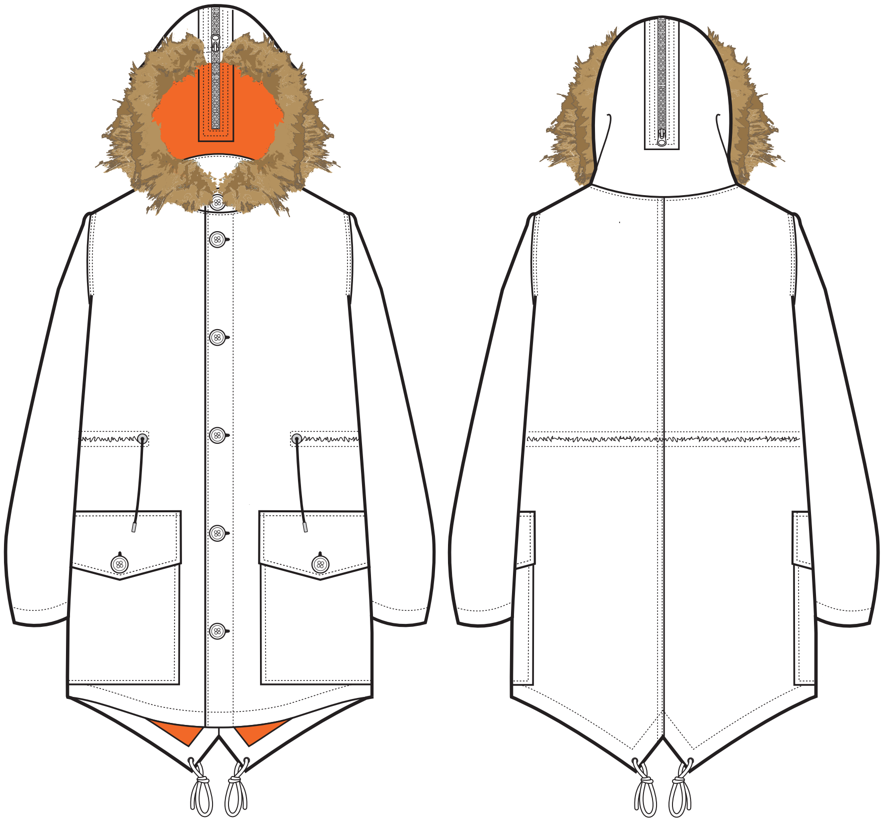
- Trace off a copy of the front and back sleeve patterns from step 21. Join the two separate patterns back together at the center line so you can make a full lining pattern.
- From the front corner of the sleeve at biceps level measure out 3⁄16in and up 3⁄16in and mark, and from the back corner of the sleeve at biceps level measure out 3⁄16in and up 3⁄16in and mark; find the new sleeve corners and draw lines back up to the shoulder seam.
- From the new front and back corner of the sleeve at biceps level blend the side seams down to meet the sleeve hemline.
- From the sleeve hemline measure down 3⁄8in and square across and label the line *fold*, and measure down a further 3⁄8in and square across, to give a 3⁄4in overlap.


3⁄16"
3⁄16"
BACK SLEEVE CORNER AT BICEPS LEVEL
3⁄16"
3⁄16"
FRONT SLEEVE CORNER AT BICEPS LEVEL
3⁄16"
3⁄16"
SLEEVE LINING
CUT1 PR LINING
GRAINLINE
3⁄4"
FOLD
3⁄4"

PATTERN

PARKA



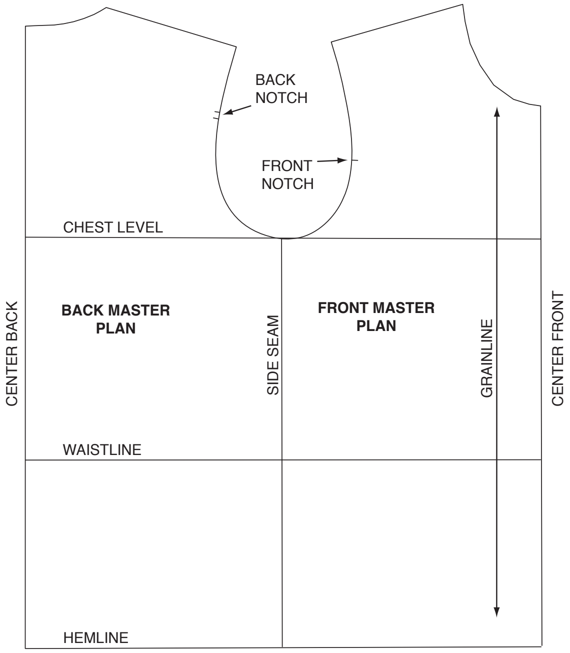


This pattern includes development of the following features:

Adding volume to the side seam, front, and back panels
Enlarging the neckline
Creating a grown-on placket
Extending and shaping the hemline with a fishtail at the back
  and a drawstring channel
Creating a drawstring channel at the waistline
Lowering the armhole
Developing front patch pockets with flaps
Developing a two-piece casual sleeve
Developing a collared hood with center zipper and fur panel
Developing a full body lining

STEP 1
DEVELOPING THE MASTER PLAN

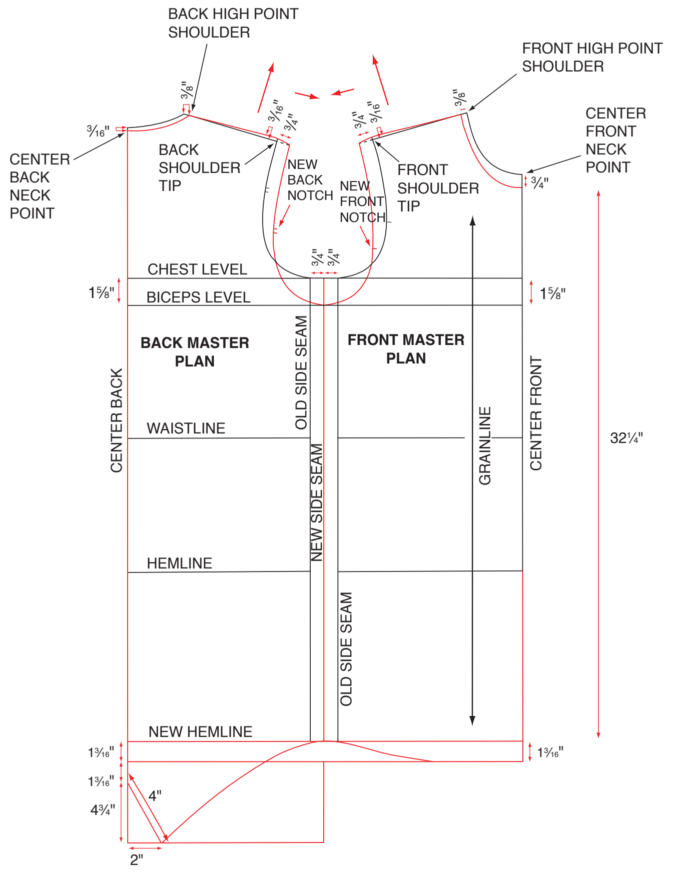
Start by selecting the basic men's upper body sloper, or by drafting the basic sloper according to the instructions on page 40. Cut a large piece of drafting paper slightly longer than the length of the coat you want to develop and transfer the shape of the sloper and all marks, labels, and instructions, following the directions on page 48.


BACK NOTCH
FRONT NOTCH
CHEST LEVEL
BACK MASTER PLAN
SIDE SEAM
FRONT MASTER PLAN
GRAINLINE
CENTER BACK
CENTER FRONT
WAISTLINE
HEMLINE

STEP 2

DEVELOPING THE ENLARGED NECK, DROPPED SHOULDER, LOWERED ARMHOLE, AND EXTENDED HEMLINE, AND SHAPING THE HEM LENGTH WITH VOLUME ADDED TO THE SIDE SEAM

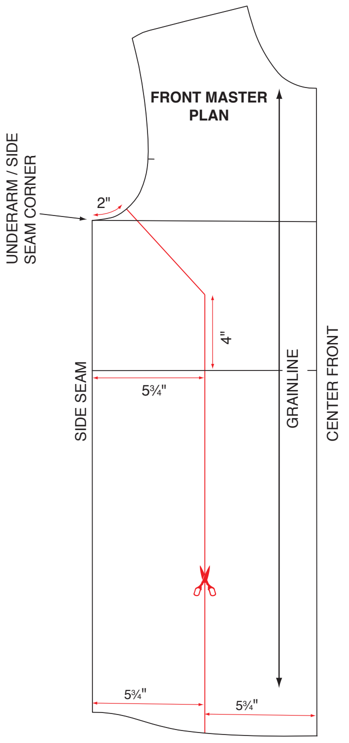
- From the center front neck point measure down 3⁄4in and from the front high point shoulder measure in 3⁄8in; repeat at the back by measuring in 3⁄8in from the back high point shoulder and 3⁄16in down the center back from the center back neck point. Using the basic upper body sloper as a template draw in the new necklines.
- From the front and back shoulder tips measure up 3⁄16in and out 3⁄4in over the armhole and mark.
- Open up the side seam by adding in 1⁵⁄8in between the front and back body panels and repositioning.
- From the underarm / side seam corner square down 1⁵⁄8in and starting from this point draw in the new armhole, connecting back up to the new dropped shoulder seam, using the basic upper body sloper as a template. Draw in the new notch positions on the lowered armhole.
- To extend the length, from the lowered neck measure 32¹⁄4in down the center front. Square across to create the new hemline and extend the side seam and the center back line.
- To shape the new hemline measure down a further 1³⁄16in at the center front and square across to the center back.
- To develop the parka fishtail design at the center back, measure down a further 5⁷⁄8in and square across to the side seam to create a rectangle.
- Starting at the bottom of the extended rectangle at the center back measure up 4³⁄4in and mark, and measure in 2in toward the side seam and mark. Join these points with an angled line 4in long. Using a French curve draw an arc from the 2in point up to the side seam and curve down toward the center front.

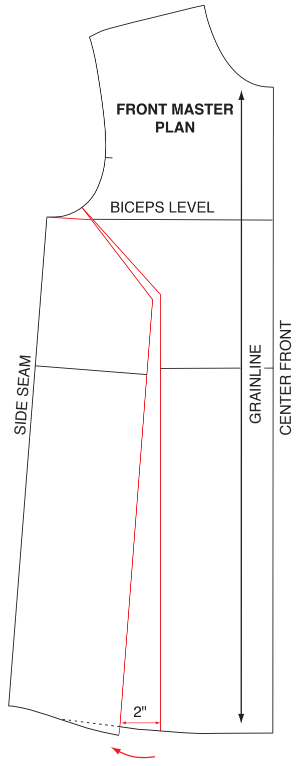

BACK HIGH POINT SHOULDER
FRONT HIGH POINT SHOULDER
3⁄8"
3⁄16"
3⁄4"
3⁄4"
3⁄16"
3⁄8"
CENTER FRONT NECK POINT
3⁄16"
CENTER BACK NECK POINT
BACK SHOULDER TIP
NEW BACK NOTCH
NEW FRONT NOTCH
FRONT SHOULDER TIP
3⁄4"
3⁄4"
3⁄4"
CHEST LEVEL
1⁵⁄8"
BICEPS LEVEL
1⁵⁄8"
BACK MASTER PLAN
OLD SIDE SEAM
FRONT MASTER PLAN
CENTER BACK
WAISTLINE
GRAINLINE
CENTER FRONT
32¹⁄4"
NEW SIDE SEAM
HEMLINE
OLD SIDE SEAM
NEW HEMLINE
1³⁄16"
1³⁄16"
1³⁄16"
4"
4³⁄4"
2"

STEP 3

ADDING VOLUME TO THE FRONT TO CREATE THE SILHOUETTE

- Following the instructions on page 50, trace off the front body shape from the master plan onto a separate piece of paper.
- From the center front at the hemline, measure in 5³⁄4in (half the width of the panel) and mark. From the side seam measure in 5³⁄4in along the waistline and from here square up 4in and mark.
- From the underarm / side seam corner measure 2in up the armhole and from this point draw a line down to meet the mark made above and then a straight line down to the hemline. This is the cut line.
- From the hemline cut up along the cut line to just under the armhole.
- Keeping the center front vertical, open the cut line 2in at the hem to add in the volume.
- Redraw the hemline.

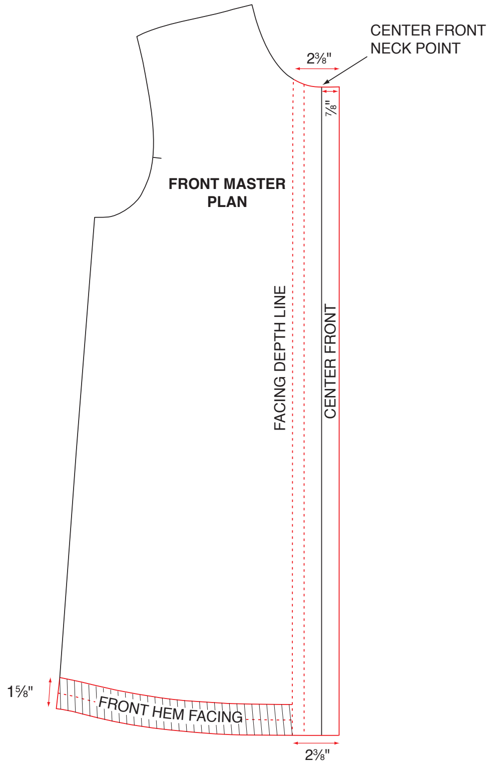

FRONT MASTER PLAN
UNDERARM / SIDE SEAM CORNER
2"
4"
5³⁄4"
SIDE SEAM
GRAINLINE
CENTER FRONT
5³⁄4"
5³⁄4"


FRONT MASTER PLAN
BICEPS LEVEL
SIDE SEAM
GRAINLINE
CENTER FRONT
2"

STEP 4

DEVELOPING THE FRONT PLACKET, FRONT PLACKET FACING, AND HEMLINE FACING

- Develop the front placket on the pattern shape developed in the previous step. From the center front neck point square out ⅞in and square in ⅞in. Repeat at the hemline and connect the points with vertical lines to form the 1¾in-wide placket.
- From the new placket line at the center front neck point measure 2⅜in in to the body, and repeat at the hemline; join with a vertical line. This will be the width of the facing pattern.
- To develop the hemline facing measure up 1⅝in from the hemline at the front facing width line and at the side seam; join these points with a line following the shape of the hem.

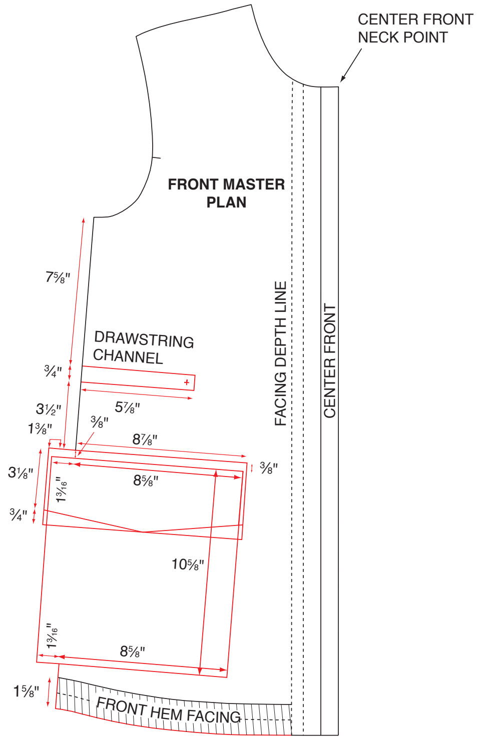

CENTER FRONT
NECK POINT
2⅜"
⅞"
FRONT MASTER
PLAN
FACING DEPTH LINE
CENTER FRONT
1⅝"
FRONT HEM FACING
2⅜"

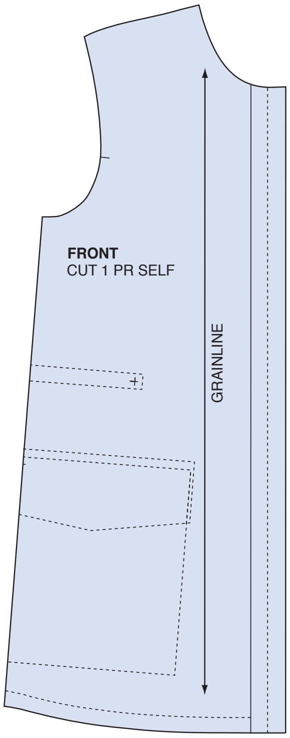
PLACKET
DEVELOPMENT

STEP 5

DEVELOPING THE DRAWSTRING CHANNEL LINE AND POCKET POSITION

- From the underarm / side seam corner measure 7⅝in down the side seam and mark, and a further ¾in and mark. Square in to the front and create a rectangle 5⅞in long and ¾in wide; this will become the drawstring channel.
- Developing the pocket flap and pocket bag shape on the master plan itself allows you to assess the proportions in relation to the body front.
- Measure a further 3½in down the side seam and mark; this is the top of the pocket flap positioned over the side seam.
- From this point square in 8⅞in and square out 1⅜in. To develop the rectangle that will become the pocket flap shape, measure down 4in on both sides and connect these points with a straight line.
- Make a mark halfway along the bottom line (5in); measure up ¾in on each side and draw lines back to the center of the bottom line to create an envelope point to the pocket flap.
- The pocket bag sits ⅜in underneath the flap: first, measure ⅜in down the side seam and mark.
- From this point square in 8⅝in and square out $1\frac{3}{16}$in to create a line 9⅞in long.
- To develop the pocket bag shape square down 10⅝in on each side and connect these points with a straight line.


CENTER FRONT
NECK POINT
FRONT MASTER
PLAN
7⅝"
DRAWSTRING
CHANNEL
¾"
5⅞"
3½"
1⅜"
⅜"
8⅞"
⅜"
3⅛"
$1\frac{3}{16}$"
8⅝"
¾"
10⅝"
$1\frac{3}{16}$"
8⅝"
FACING DEPTH LINE
CENTER FRONT
1⅝"
FRONT HEM FACING


FRONT
CUT 1 PR SELF
GRAINLINE

STEP 6

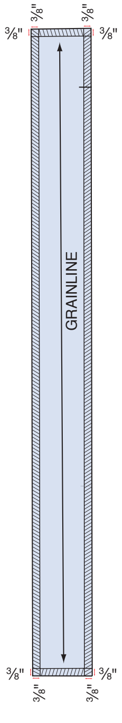
FRONT BODY PATTERN

- Following the instructions on page 50, trace off the front body pattern, indicating all the placement positions for the drawstring channel, pocket, and front placket facing.

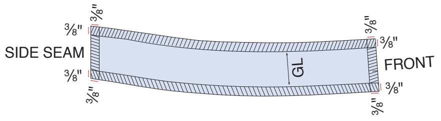
STEP 7

FRONT PLACKET FACING AND HEM FACING PATTERNS

- Following the instructions on page 50, trace off the final front placket facing pattern and the front hem facing pattern, adding a ³⁄₈in seam allowance on all sides.


⅜"
⅜"
⅜"
⅜"
GRAINLINE
⅜"
⅜"
⅜"
⅜"

FRONT PLACKET FACING
CUT 1 PR SELF

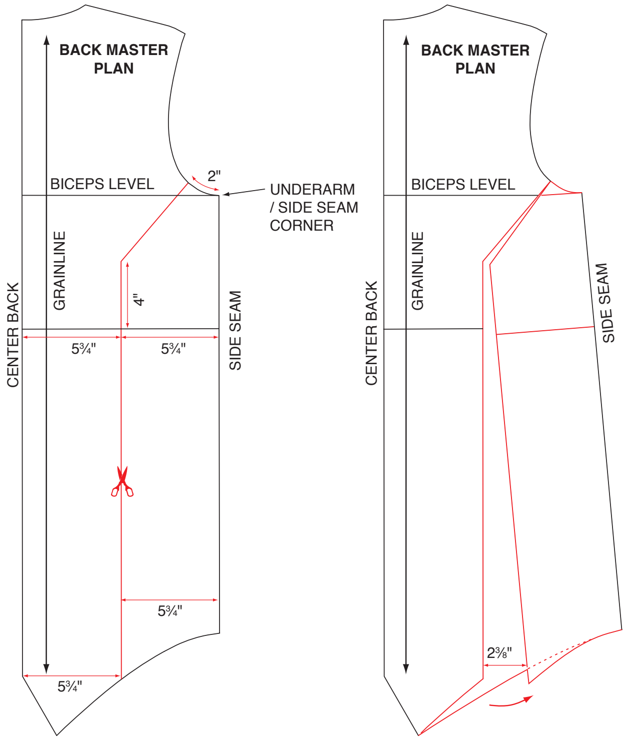

⅜"
⅜"
SIDE SEAM
⅜"
⅜"
GL
⅜"
⅜"
FRONT
⅜"
⅜"

FRONT HEM FACING
CUT 1 PR SELF

STEP 8

ADDING BACK VOLUME TO CREATE THE SILHOUETTE

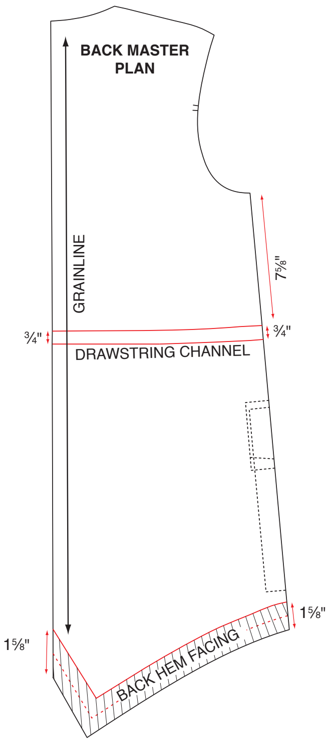
- Following the instructions on page 50, trace off the back body shape from the master plan onto a separate piece of paper.
- From the center back at the hemline, measure in 5¾in (half the width of the panel). From the side seam measure in 5¾in along the waistline and from here square up 4in and mark.
- From the underarm / side seam corner measure 2in up the armhole and from this point draw a line down to meet the mark made above and then a straight line down to the hemline. This is the cut line.
- Keeping the center back vertical, open the cut line 2⅜in at the hem to add in the volume.
- Redraw the hemline.


BACK MASTER PLAN
BICEPS LEVEL
2"
UNDERARM / SIDE SEAM CORNER
GRAINLINE
CENTER BACK
4"
5¾"
5¾"
SIDE SEAM
5¾"
5¾"
BACK MASTER PLAN
BICEPS LEVEL
GRAINLINE
CENTER BACK
SIDE SEAM
2⅜"

STEP 9

DEVELOPING THE HEMLINE FACING AND DRAWSTRING CHANNEL LINE

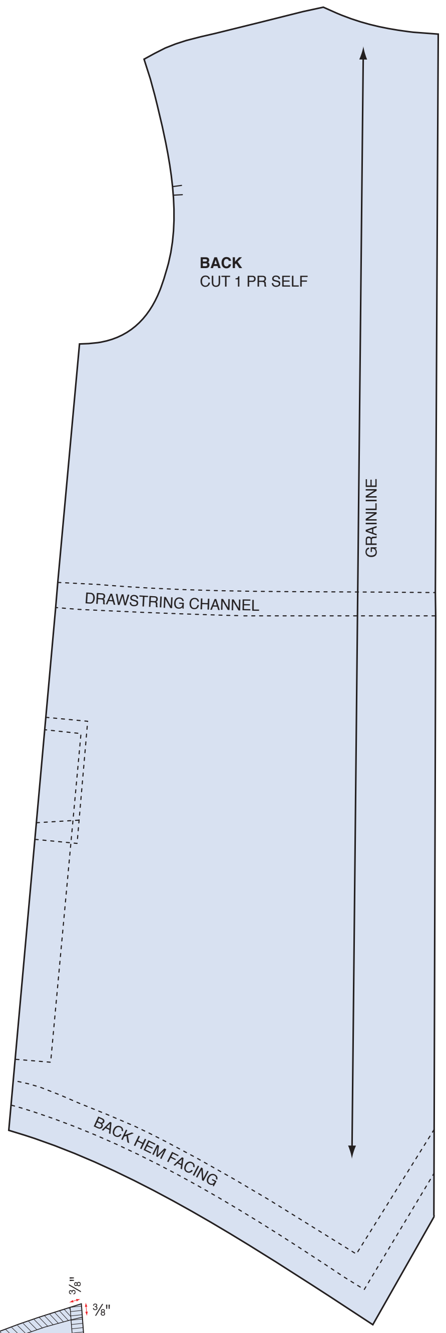
- Develop the hemline facing on the pattern shape developed in the previous step. To develop the back hemline facing, measure up 1⅝in from the hemline at the center back and at the side seam. Join these points with a line following the shape of the hem.
- From the underarm / side seam corner measure 7⅝in down the side seam and mark, and a further ¾in and mark. From both points square across to the center back; this will become the drawstring channel.

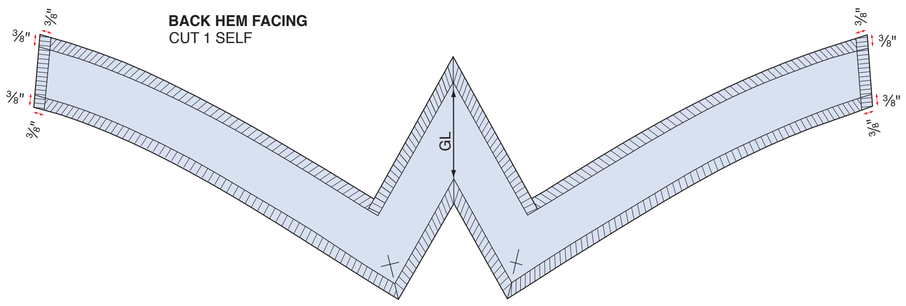

BACK MASTER PLAN
GRAINLINE
7⅝"
¾"
¾"
DRAWSTRING CHANNEL
1⅝"
1⅝"
BACK HEM FACING

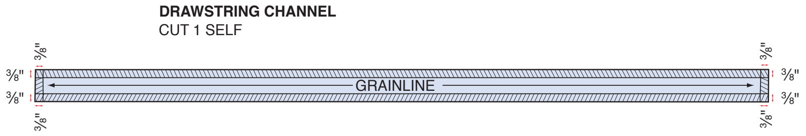
STEP 10

BACK, BACK HEM FACING, AND DRAWSTRING CHANNEL PATTERNS

- Following the instructions on page 50, trace off the back pattern. Indicate the placement positions for the drawstring and hem facing. Indicate the position of the pocket by lining up this back pattern with the front from Step 5 at the side seam; trace the pocket position onto the back pattern with dotted lines.
- Trace off the back hem facing onto a new piece of paper and, following the instructions on page 50, create the full pattern shape. Add a 3⁄8in seam allowance on all sides.
- Align the front and back body patterns at the side seam and trace off the drawstring channel and, following the instructions on page 50, create the full pattern shape. Add a 3⁄8in seam allowance on all sides.

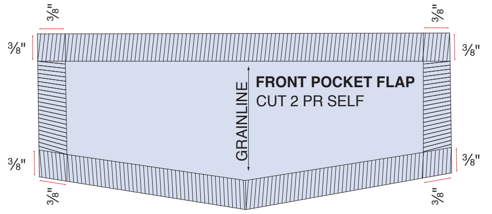

BACK
CUT 1 PR SELF
GRAINLINE
DRAWSTRING CHANNEL
BACK HEM FACING

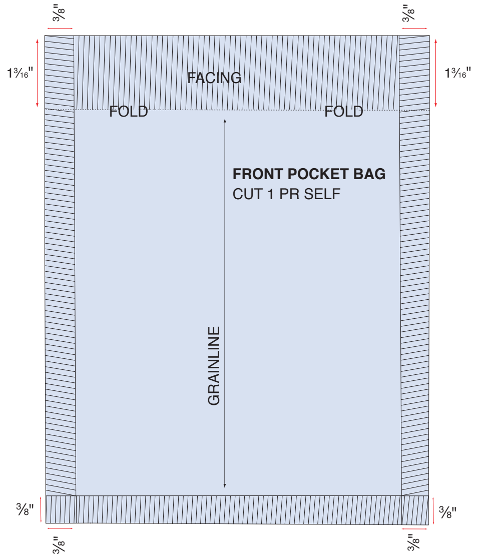

BACK HEM FACING
CUT 1 SELF
3⁄8"
3⁄8"
3⁄8"
3⁄8"
GL
3⁄8"
3⁄8"
3⁄8"
3⁄8"


DRAWSTRING CHANNEL
CUT 1 SELF
3⁄8"
3⁄8"
3⁄8"
3⁄8"
GRAINLINE
3⁄8"
3⁄8"
3⁄8"
3⁄8"

STEP 11
FRONT POCKET FLAP AND BAG PATTERNS

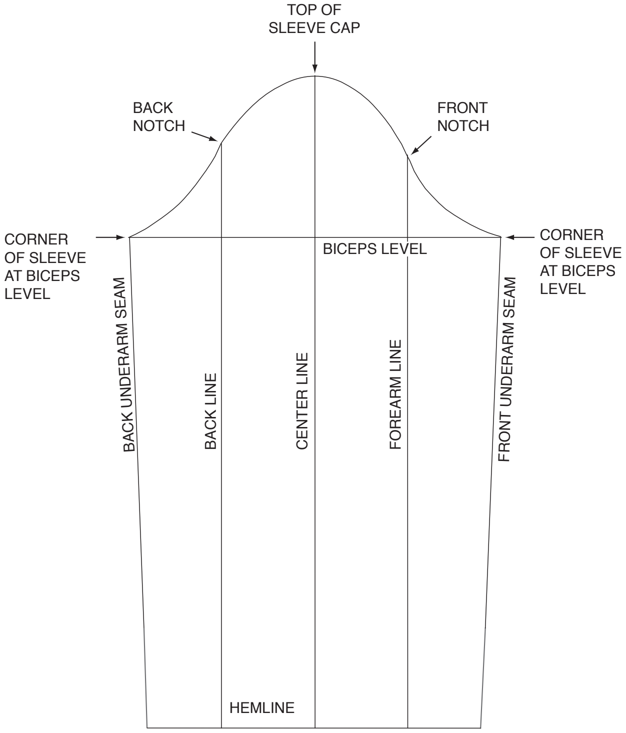
- Following the instructions on page 50, trace off the front pocket flap pattern and add a ⅜in seam allowance on all sides.
- Following the instructions on page 50, trace off the front pocket bag pattern. Add a ⅜in seam allowance on three sides and a 1³⁄₁₆in facing to the top.


⅜"
⅜"
⅜"
⅜"
FRONT POCKET FLAP
CUT 2 PR SELF
GRAINLINE
⅜"
⅜"
⅜"
⅜"


⅜"
⅜"
1³⁄₁₆"
FACING
1³⁄₁₆"
FOLD
FOLD
FRONT POCKET BAG
CUT 1 PR SELF
GRAINLINE
⅜"
⅜"
⅜"
⅜"

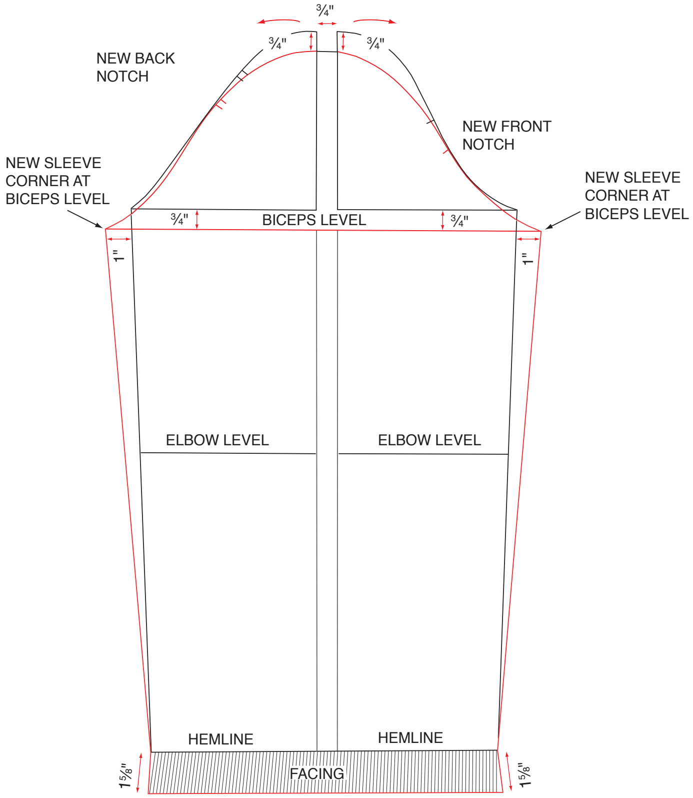
STEP 12
SLEEVE MASTER PLAN

Start this development by selecting the basic men's sleeve sloper, or by drafting the basic sleeve sloper according to the instructions on page 42. Cut a large piece of drafting paper slightly longer than the length of the shirt you want to develop and transfer the shape of the sloper and all marks, labels, and instructions, following the directions on page 48. The design will be altered to reflect the dropped shoulder and the lowered armhole.


TOP OF SLEEVE CAP
BACK NOTCH
FRONT NOTCH
CORNER OF SLEEVE AT BICEPS LEVEL
BICEPS LEVEL
CORNER OF SLEEVE AT BICEPS LEVEL
BACK UNDERARM SEAM
BACK LINE
CENTER LINE
FOREARM LINE
FRONT UNDERARM SEAM
HEMLINE

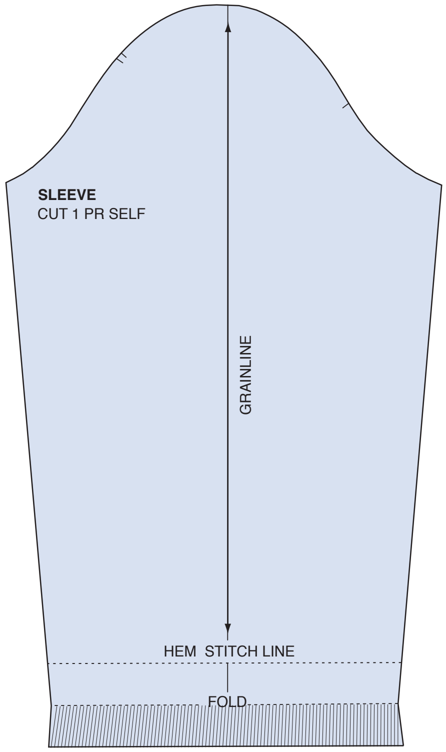
STEP 13
DEVELOPING THE SLEEVE

- Open the sleeve up along the center line by ¾in.
- From the shoulder tip measure down ¾in, the same amount you dropped the shoulder on the upper body sloper.
- From the biceps level measure down ¾in, half the amount by which you dropped the armhole; redraw the new biceps level position, extending it by 1in each side.
- Using the basic sleeve sloper cap shape as a template, redraw the new sleeve cap, indicating the lowered notches.
- Draw the new underarm seams down to the sleeve hemline.
- From the sleeve hemline square down 1⅝in to create the facing shape, pitching out at each side to reflect the underarm seams when folded.


¾"
¾"
¾"
NEW BACK NOTCH
NEW FRONT NOTCH
NEW SLEEVE CORNER AT BICEPS LEVEL
NEW SLEEVE CORNER AT BICEPS LEVEL
¾"
BICEPS LEVEL
¾"
1"
1"
ELBOW LEVEL
ELBOW LEVEL
HEMLINE
HEMLINE
1⅝"
FACING
1⅝"

STEP 14
SLEEVE PATTERN

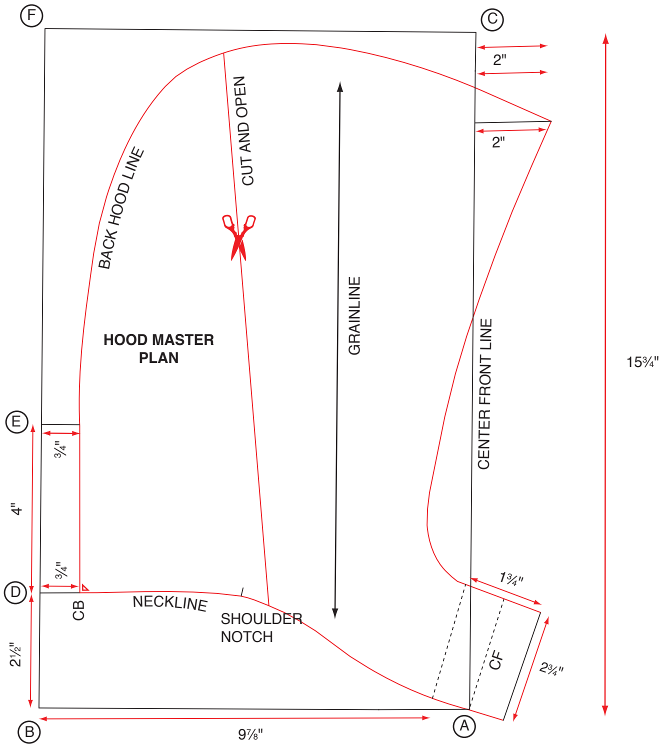
- Following the instructions on page 50, trace off the final sleeve pattern.


SLEEVE
CUT 1 PR SELF
GRAINLINE
HEM STITCH LINE
FOLD

STEP 15
DEVELOPING THE COLLARED HOOD

There are three measurements you need to create the pattern for the hood:

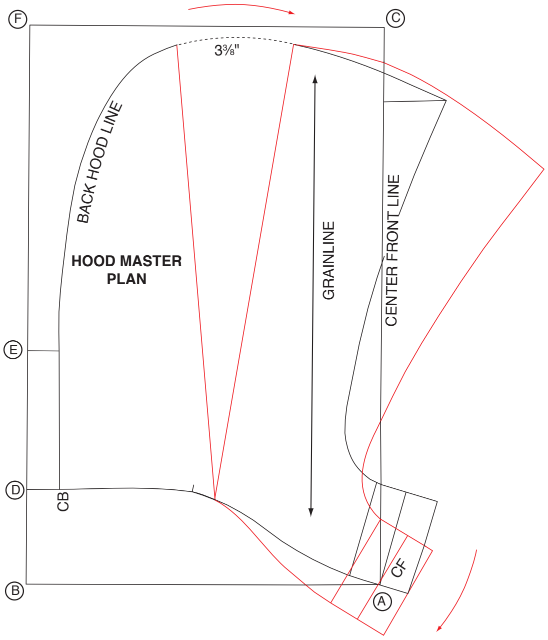
1. The front and back neck measurements, taken from the pattern—here they are 4⅞in and 4⅞in. If you are developing a hood with a center back panel, remember to deduct the panel width from the final neck measurement as well as from the crown and front opening.
2. The front and back neck height, found by placing the front pattern on top of the back pattern and aligning them at the chest level, then measuring the distance between the front and back neck heights—here it is 2½in.
3. The vertical circumference of the head, taken for the hood opening by measuring around the face of the model's head, starting and finishing at the center front neck point—here it is 31½in.

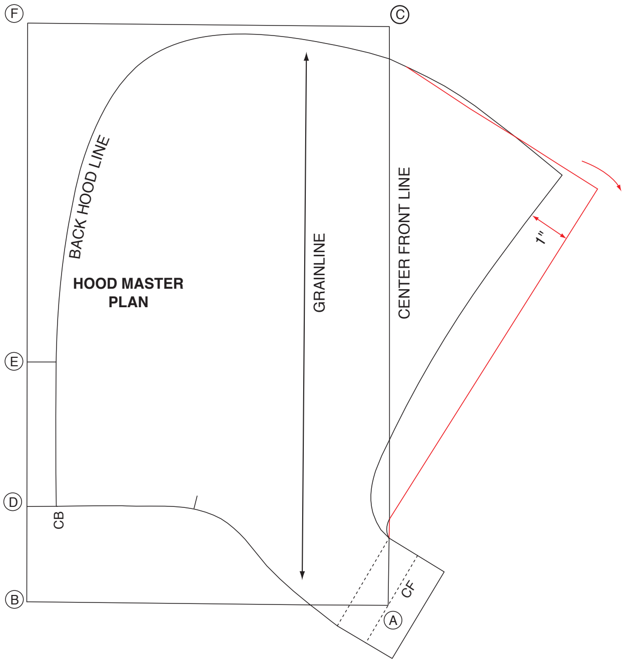


- Starting at the bottom right side of your paper mark point (A) and draw a 9⅞in horizontal line left (the length of the combined neck measurement) and mark point (B).
- From (A) square up 15¾in (half the head circumference) and mark point (C). Complete the rectangle and mark point (F).
- From (B) square up 2½in (the neck height) and mark point (D). Square in ¾in and mark; label this point *center back neck*.
- From (D) measure up 4in and mark point (E). Square in ¾in and mark.
- Using a French curve draw in the neckline from (A) up to the center back line ¾in in from (D). Measure 4⅞in (the front neck measurement) along this line from (A) and mark the shoulder notch.
- To shape the front opening, from (A) add on the front placket width, which is 1¾in. To do this, extend the neckline by ⅞in (half the placket width) and then square up 2¾in; from this point square back 1¾in and mark.
- From (C) measure down 2in and then square out 2in and mark; this is the top of the front opening. Using a French curve, draw in the curved front opening from the mark you made at the top of the placket to the top of the front opening.
- From the front opening draw the hood shape (determined by the design, head size, neck opening, and usage) back around to the mark ¾in out from (E).
- To enlarge the hood, draw a cut line at a slight angle from the shoulder tip through the hood down to finish just in front of the shoulder tip notch.

STEP 16
ADDING VOLUME TO THE HOOD

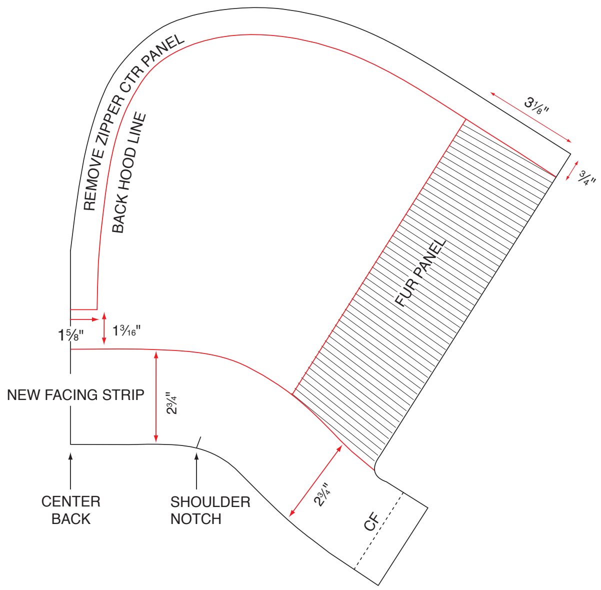
- Cut along the cut line from the top, leaving the shape connected by a fraction of an inch.
- Moving it clockwise, open the front by 3⅜in, which will pitch down the center front. Redraw the top of the hood.
- From the new front opening position measure out 1in and mark. From this point square back to the top of the hood panel; then from the same point square back down to the bottom of the opening, finishing with a slight curve to meet the front placket. This creates a straight front for the addition of the fur panel.


F
C
3⅜"
BACK HOOD LINE
HOOD MASTER PLAN
GRAINLINE
CENTER FRONT LINE
E
D
CB
B
CF
A


F
C
BACK HOOD LINE
HOOD MASTER PLAN
GRAINLINE
CENTER FRONT LINE
1"
E
D
CB
B
CF
A

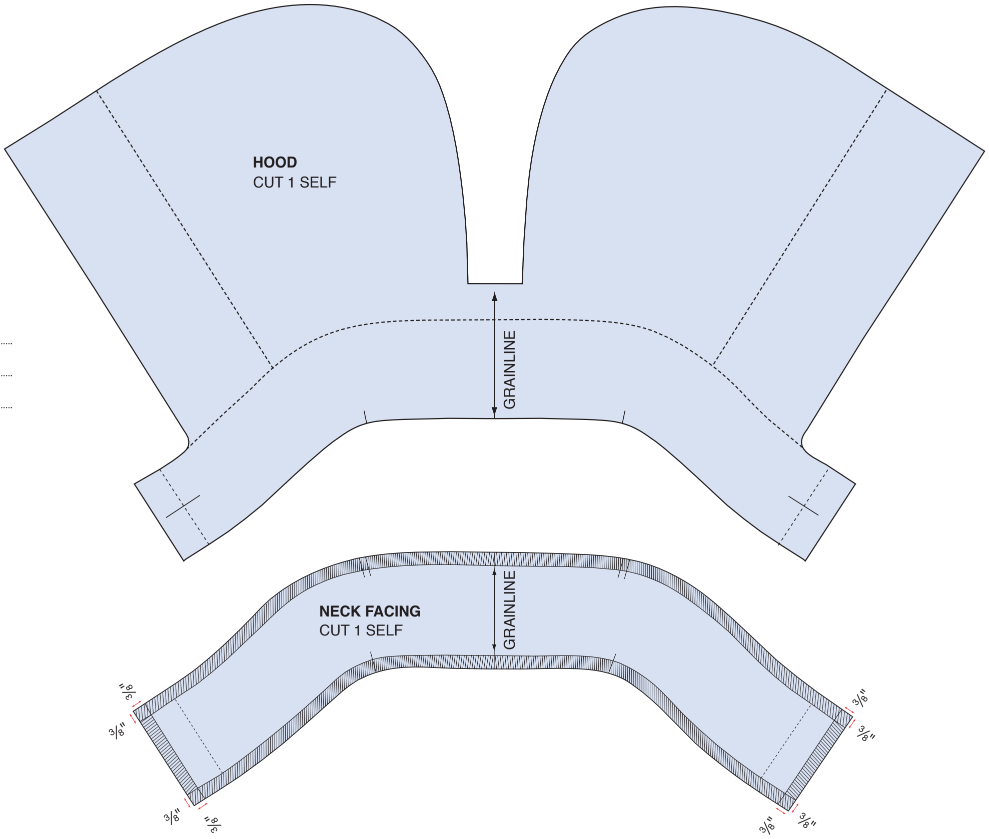
STEP 17
DEVELOPING THE FULL HOOD, NECK FACING, ZIPPER, AND FUR PANEL

- Trace off the hood shape and, following the instructions on page 50, double it along the center back neck to create a mirrored shape.
- To develop the facing shape, measure up 2¾in from the neckline at the center front and center back and join these points with a line following the shape of the neckline.
- To remove the center back hood panel, in which the zipper is sandwiched, measure in ¾in along the back hood line on both sides, finishing $1\frac{3}{16}$in from the new facing strip.
- The fur panel is attached to the hood along the front opening and will need a separate pattern. Measure 3⅛in back from the front opening and create a rectangular panel on both sides.


REMOVE ZIPPER CTR PANEL
BACK HOOD LINE
3⅛"
¾"
FUR PANEL
1⅝"
$1\frac{3}{16}$"
NEW FACING STRIP
2¾"
2¾"
CF
CENTER BACK
SHOULDER NOTCH

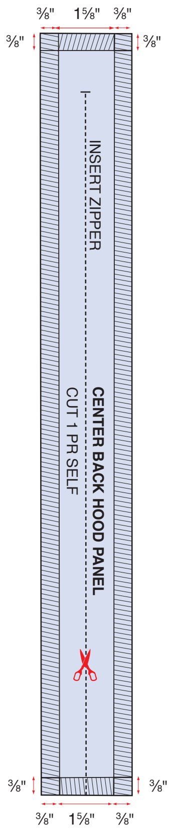
STEP 18
HOOD AND NECK FACING PATTERNS

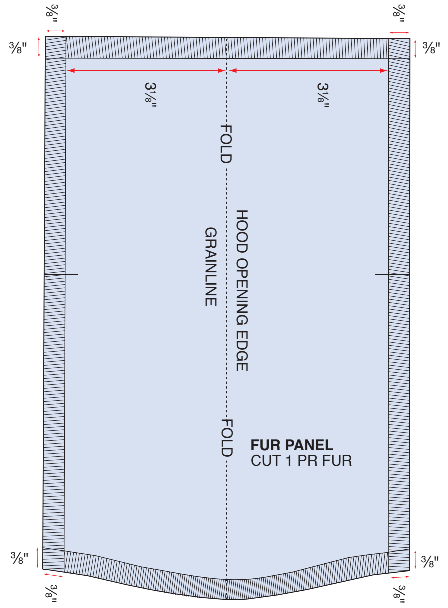
- Following the instructions on page 50, trace off the final hood pattern removing the center zipper panel.
- Following the instructions on page 50, trace off the neck facing pattern, adding a ⅜in seam allowance on all sides.


HOOD
CUT 1 SELF
GRAINLINE
NECK FACING
CUT 1 SELF
GRAINLINE
⅜"
⅜"
⅜"
⅜"
⅜"
⅜"
⅜"
⅜"

STEP 19
CENTRE BACK HOOD AND FUR PANEL PATTERNS

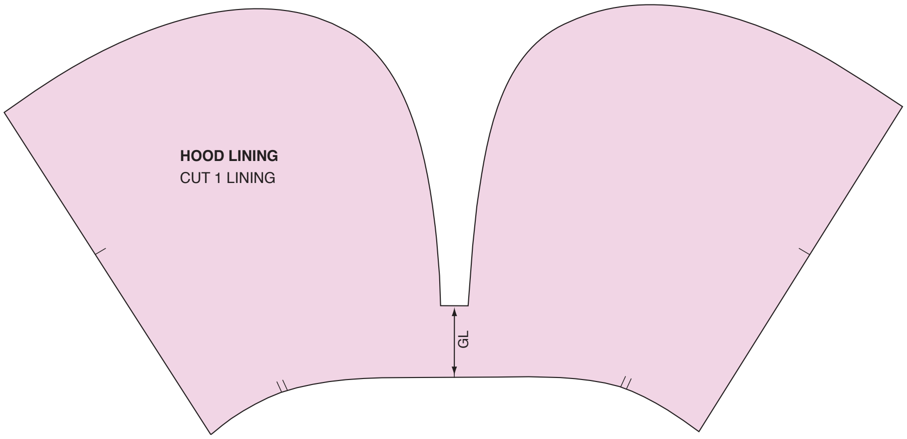
- Construct the final center zipper panel as a rectangle 1⅝in wide by the length of the back hood line measured from Step 17, adding a ⅜in seam allowance on all sides.
- Following the instructions on page 50, trace off the fur panel from one side of the hood from Step 17, doubling the shape along the front opening. Add a ⅜in seam allowance on all sides to create the final pattern.


⅜"
1⅝"
⅜"
⅜"
⅜"
INSERT ZIPPER
CENTER BACK HOOD PANEL
CUT 1 PR SELF
⅜"
⅜"
⅜"
1⅝"
⅜"


⅜"
⅜"
⅜"
⅜"
3⅛"
3⅛"
FOLD
HOOD OPENING EDGE
GRAINLINE
FOLD
FUR PANEL
CUT 1 PR FUR
⅜"
⅜"
⅜"
⅜"

STEP 20
FINAL HOOD LINING PATTERN

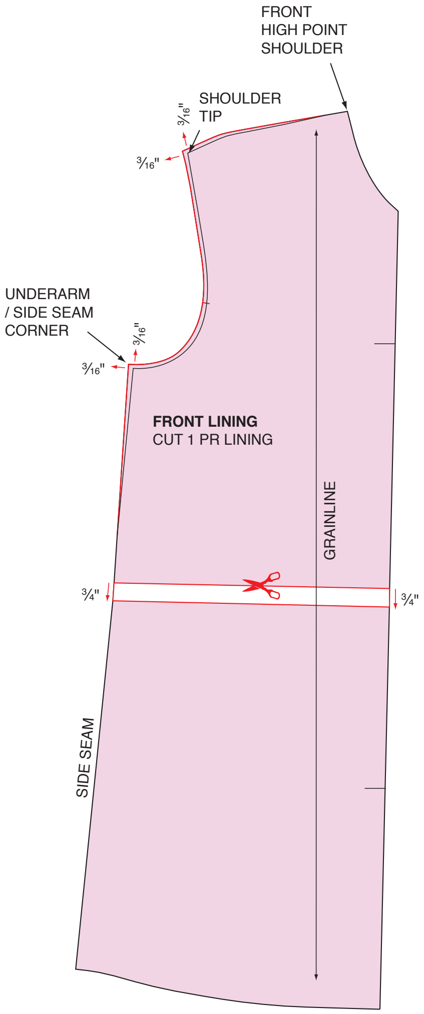
- Following the instructions on page 50, trace off the hood lining pattern from Step 17 without the neck facing, center zipper, and fur panels.



HOOD LINING
CUT 1 LINING
GL

STEP 21
DEVELOPING THE FRONT LINING

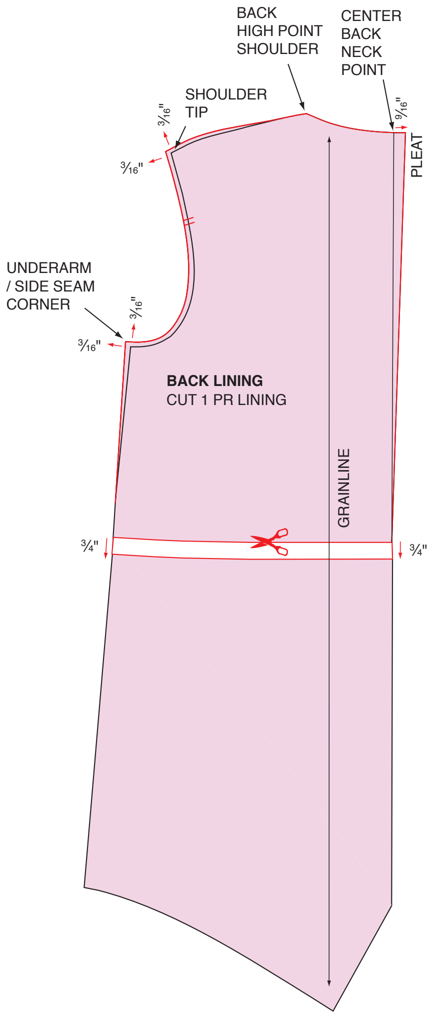
- Following the instructions on page 50, trace off a copy of the front body shape from Step 6. Remove the facing shape from the front. The remaining shape will become the front lining.
- Next, you need to add ease by increasing the armhole width to allow for movement. From the shoulder tip measure out 3⁄16in and mark, and up 3⁄16in and mark. Find the new shoulder tip, and from this point draw a line following the curve of the shoulder back to the front high point shoulder.
- From the underarm / side seam corner measure up 3⁄16in and mark, and out 3⁄16in and mark. Find the new corner and draw a line 3⁄16in out from the original armhole back up to the new shoulder tip.
- To extend the length and give the lining an overlap at the waistline, cut it in half, and open it up by moving the panels apart by 3⁄4in.
- From the new underarm / side seam corner blend the side seam down to meet the original hemline.



FRONT HIGH POINT SHOULDER
SHOULDER TIP
3⁄16"
3⁄16"
UNDERARM / SIDE SEAM CORNER
3⁄16"
3⁄16"
FRONT LINING
CUT 1 PR LINING
GRAINLINE
3⁄4"
3⁄4"
SIDE SEAM

STEP 22
DEVELOPING THE BACK LINING

- Following the instructions on page 50, trace off a copy of the back body from Step 9.
- You will need to add ease to the center back to allow the lining to expand across the shoulder blades and also to increase the armhole to allow for movement. From the center back neck point measure out 9⁄16in and connect this point to the waistline; this will become the pleat.
- From the back shoulder tip measure out 3⁄16in and mark, and up 3⁄16in and mark. Find the new shoulder tip and draw a line following the curve of the shoulder back to the back high point shoulder.
- From the underam / side seam corner measure up 3⁄16in and mark, and out 3⁄16in and mark. Find the new underarm / side seam corner and draw a line 3⁄16in out from the original armhole back up to the new shoulder tip.
- To extend the length and give the lining an overlap at the waistline, cut it in half and open it by moving up by moving the panels apart by 3⁄4in.
- From the new underarm / side seam corner blend the side seam down to meet the original hemline.

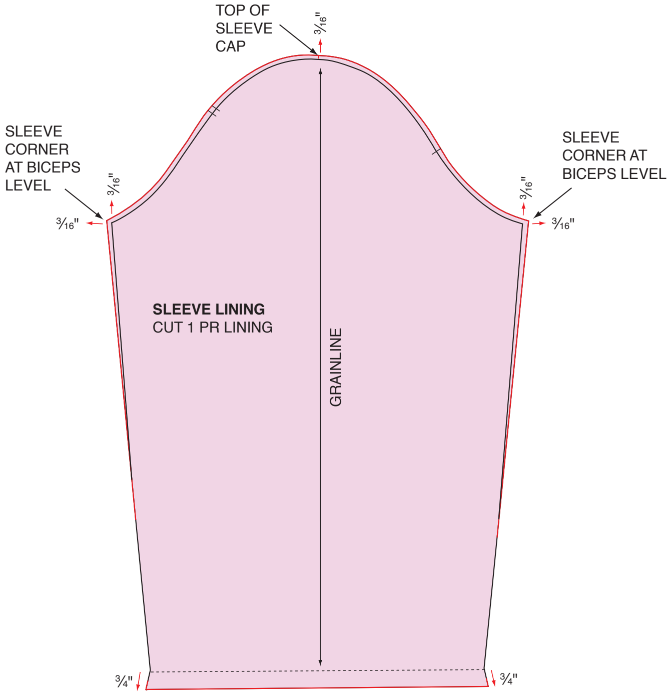

BACK HIGH POINT SHOULDER
CENTER BACK NECK POINT
SHOULDER TIP
3⁄16"
3⁄16"
9⁄16"
PLEAT
UNDERARM / SIDE SEAM CORNER
3⁄16"
3⁄16"
BACK LINING
CUT 1 PR LINING
GRAINLINE
3⁄4"
3⁄4"

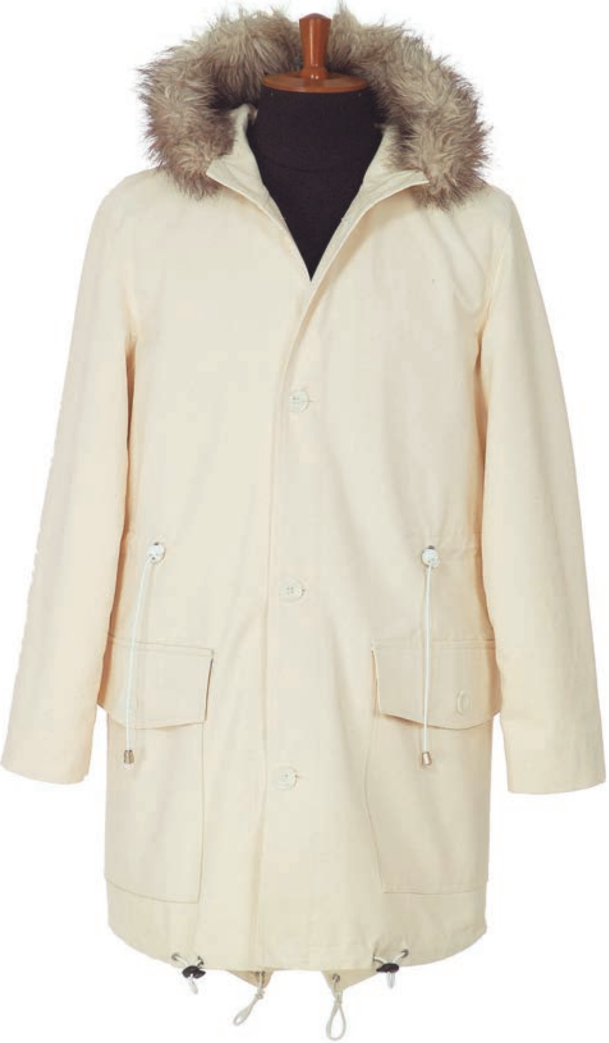
STEP 23
DEVELOPING THE SLEEVE LINING

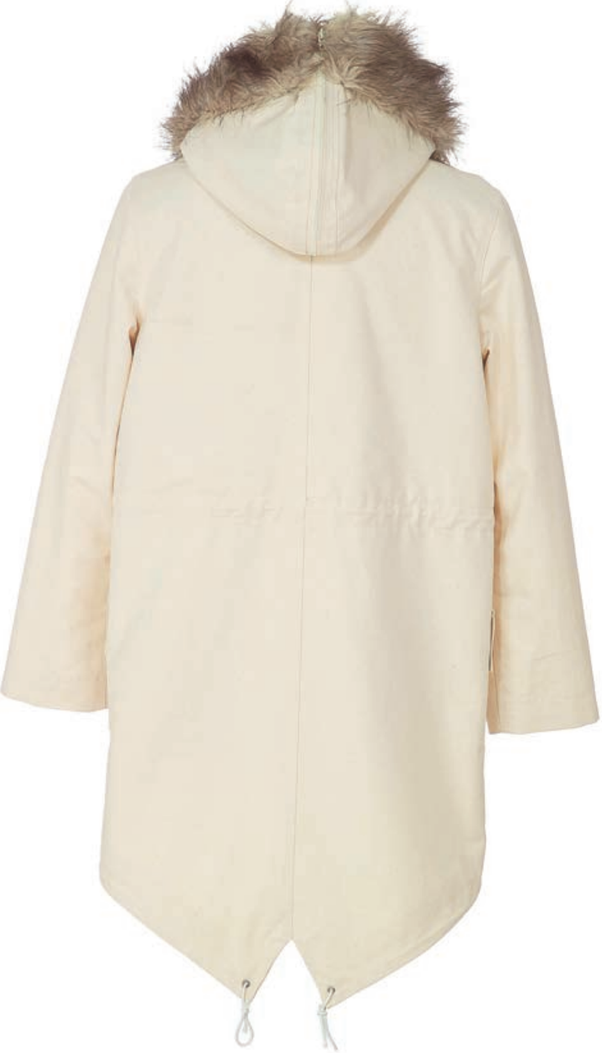
Matching the measurements

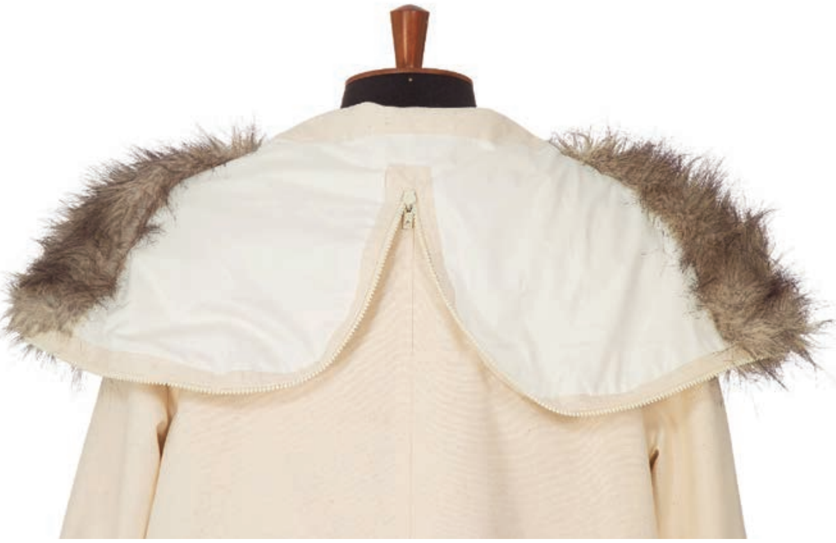
Having enlarged the armhole lining, we will now increase the sleeve cap so that the measurements match. At the sleeve hemline we will increase the length of the lining so that when the arm is raised the lining will not pull the outer sleeve.

- Following the instructions on page 50, trace off a copy of the sleeve from Step 14.
- From the shoulder tip measure up 3⁄16in and mark, and from the front and back corners of the sleeve at biceps level measure out 3⁄16in and mark and up 3⁄16in and mark. Find the new corners of the sleeve and connect the front, the cap, and the back with a curved line.
- From the new front and back corners of the sleeve at biceps level draw a line down to blend in with the sleeve hemline.
- From the sleeve hemline measure down 3⁄4in and square across to increase the length of the lining, pitching out at each side to reflect the underarm seams when folded.


TOP OF SLEEVE CAP
3⁄16"
SLEEVE CORNER AT BICEPS LEVEL
3⁄16"
3⁄16"
SLEEVE CORNER AT BICEPS LEVEL
3⁄16"
3⁄16"
SLEEVE LINING
CUT 1 PR LINING
GRAINLINE
3⁄4"
3⁄4"







GLOSSARY

Annotation Label or instruction added to a pattern to indicate grainline, piece name, season, cut ratio, internal features, and fabric used.

Awl Wooden- or plastic-handled metal spike used to puncture small holes through pattern card, paper, or fabric.

Back high point shoulder Point where the shoulder line and the back neckline meet.

Back shoulder seam Line between the neck and armhole that rests along the shoulder on the final garment.

Back shoulder tip Point where the shoulder line and the armhole line meet.

Back underarm point Lowest point of the armhole, usually where it meets the top of the side seam line.

Balance marks *See* notches.

Bias grain Line taken across the fabric at a 45-degree angle to the weft and warp threads.

Biceps level The largest circumference around the upper arm. On patterns, the line that runs across the width of the sleeve below the shaped cap; it is usually the widest circumference of the sleeve as it encapsulates the bicep muscle.

Block Another name for "sloper."

Box pleat A pleat made by making two folds in a piece of fabric, their edges facing in different directions.

Button stand A column of fabric at the front of a shirt or garment that holds buttons and buttonholes.

CAD Computer-aided design.

CAM Computer-aided manufacture.

Center back (CB) Central line that vertically divides the back body into two halves.

Center back neck Point at the top of the spinal column where the neck joins the body.

Center back rise Line running between the waist and the center crotch point that divides the back lower torso into two halves.

Center front (CF) Central line that vertically divides the front body into two halves.

Center front neck point Point in the center of the ribcage where the front of the neck joins the body.

Center front rise Line running between the waist and the center crotch point that divides the front lower torso into two halves.

Center line Line running down from the shoudler tip to the cuff hem that divides the front and back halves of the sleeve.

Chest level The largest circumference of the chest horizontal to the floor.

Collar point The lowest external edge of the collar shape when folded down on the garment neckline.

Collar stand Rectangular band that is sewn to the neckline of a garment and lifts the collar.

Crotch level Line where the lower torso ends and the legs begin.

Crotch point Point where the front and back rises meet the inseam.

Cuff guard Fabric band that encases the slit opening at the bottom of the sleeve through which the hand passes.

Dart Stitched fold of fabric placed in a garment to fit it to the curves of the body.

Dart point The end of the stitched fold of fabric.

Dart leg The sides of the dart length.

Dart line The central line between the dart legs.

Digitizing Digitally tracing the outline of a pattern piece to render the shape as computer mapping data.

Drafting paper Specialist paper or Manila card used to construct a pattern.

Drill holes Holes punched through a pattern card to allow the positions of pockets, buttonholes, and design features to be marked on the fabric.

Drop The difference between the chest and waist circumferences.

Ease Measurement of space between the body and the garment added to the pattern to allow a proper fit.

Elbow level Line that denotes the level of the elbow within the sleeve length.

Facing Section of fabric used to finish the hems and openings of garments; also used to give support to an area of fabric.

Fit model A model who is the size and shape of a fashion label's typical customer; clothes are fitted to their body shape.

Flare Volume added to a garment by pivoting or the insertion of a separate panel.

Fold line Label attached to a drawn line with bent arrows at each end to indicate a section of the pattern that needs replicating by folding the fabric over.

Forearm line Line running down the front sleeve denoting the front aspect of the arm.

French curve Flat drawing tool shaped in a graduating curve to give a template for drawing curves of the body.

Front high point shoulder Point where the shoulder line and the back neck curve meet.

Front neck curve The length of the area made by the front neck opening in a garment.

Front shoulder seam Line that runs between the neck and armhole on a pattern; it rests along the shoulder of the body on the constructed garment.

Front shoulder tip Point where the shoulder line and the armhole line meet.

Front underarm point Lowest point of the armhole, usually where it meets the top of the side seam line.

Fullness Extra volume to a pattern area in width, length, or both.

Fuse Interfacing material with an adhesive side used to stiffen or support internal sections of a garment.

Gathers Pulled together fabric, its length reduced to fit a smaller measurement.

Grading Process of enlarging or reducing the dimensions of a pattern proportionally to create a larger or smaller pattern size.

Grainline Direction of the warp and weft threads in a piece of fabric.

Half back neck measurement Distance between the center back seam and the back shoulder seam.

Half front neck measurement Distance between the center front seam and the front shoulder seam.

Hemline Bottom edge of the garment body.

Hem width Extended section of the garment body that is folded up to create a finished edge to the garment body.

High point shoulder Point where the front and back shoulder seams meet the neckline. Also known as "shoulder neck point."

Hip level The largest circumference of the hips and buttocks horizontal to the floor.

Horizontal grain Direction of the weft threads that run horizontally across the fabric from selvage to selvage.

Inseam The inner seam of the pant legs.

Knee level Line of the knee on a pant leg pattern.

Lapel Constructed fabric panel that connects the collar and front opening of a jacket or shirt and gives a finished appearance; also used for strength and support.

Made-to-measure Describes a custom-made garment that is fitted to individual measurements.
Marker Gridded paper onto which patterns are traced, for fabric to be cut out.
Muslin Unbleached, raw cotton fabric used to test garment designs. Also the name of a sample garment made from muslin and used to test the fit and proportional balance of a design on the human body.

Neckline Opening in a garment where the head passes through.
Notches Small incisions made to indicate a position when aligning patterns, seams, hems, CF, and CB.

Outseam Seam of the garment down the outside of a pant leg.

Pivoting Rotation of a pattern from a fixed point.
Placket Fabric band that encases a slit or opening at the neck or center front of a garment and holds a closer of buttons or zippers.
Pleat Fold in fabric that when repeated creates volume in a design.
Plotter Large-scale paper printer that plots digitized patterns.
PR = pair of patterns.

Raglan sleeve Sleeve that extends from under the arm toward the neckline.
Roll line Folded line where the lapel turns over from the collar down to the center front opening.
RSU = right side up.
Seam allowance Extra volume added to the stitch line that allows seams to be sewn together.
Set-in sleeve Sleeve that is set or attached to a circular opening (armhole) that encases the arm around the shoulder down through the underarm pit.
Shoulder notch Aligning notch on a collar to control fabric spread when inserting the collar; it is matched with the shoulder seams.
Shoulder tip Point where the sleeve cap and the front and back shoulder seams meet.
Slash and spread Patternmaking technique that involves cutting open a pattern to introduce or remove volume.
Side seam Seam of garment that runs down the side of the body, coats, and pants.
Sleeve cap (crown/head) Upper part of the sleeve that is sewn into the armhole.
Sloper A basic pattern shape that represents an area of the body, usually the torso (upper body sloper), arms (sleeve sloper), or legs (pant sloper). Also known as "block."
Style line Seams that separate the pattern pieces of a design.
Suppression Removal of fabric to introduce shape to the curves of the human body.

Toile Another name for "muslin."
Tolerance The amount of movement in woven fabric structure.
Top stitch Lock stitch that is placed along the edge of seams to secure them together.
Torso The trunk of the human body between the shoulders and the crotch.
Tuck Fold in fabric secured to seams; like pleats, tucks create volume.
Two-piece sleeve Sleeve shape made of two pattern pieces that take the natural hanging shape of the arm. The upper part attaches to the sleeve cap / head of the armhole; the lower part attaches to the underarm section of the armhole. It is generally used in tailored suits and coats, and the sleeve is set high under the arm for mobility.

Under collar Copy of the faced collar pattern that is reduced in size to enable the collar edge seam to turn under itself so that it is not visible.
Underarm seam Vertical seams of a set-in sleeve that, when sewn together, create the cylindrical tube of the sleeve.
Upper body sloper (bodice sloper/torso sloper) Basic pattern of the torso in a particular size that has no design features.

Vent Vertical slit in the back or side back hem seams of coats or jackets that allows body movement when the garment is worn.

Waistband Band of faced fabric attached to the top of pants to give finish and support or inserted in a jacket as a design feature to denote the waist level.
Waistline Circumference around the torso of the body between the hips and the bottom of the rib cage.
Warp Holding yarn that runs parallel to the edges of the loom.
Weft Filling yarn woven across the loom, perpendicular to the holding yarn.
Wristline The smallest circumference of the arm.

Yoke Panel created in the top front or back area of a garment, coat, or jacket. Also applied to a panel across the top of pants.

INDEX

AccuMark software (Gerber) 68, 69, 70
activewear 11, 14, 58, 62
  see also hooded sweatshirt; sweatpants
Alcega, Juan de 8
anatomy *see* human anatomy
annotation 38, 39, 51
anoraks 50–51, 57, 68;
  pattern 206–19
anthropometer 26
armholes 41, 42, 55, 59, 66;
  adjusting 81, 85, 90, 105, 127, 144, 233, 270, 289, 303
avatars *see* virtual avatars
awl 18, 19

Balance 31, 61, 62
"Balmac" trench coat 7
band collar 62
baseball hemlines 117, 127
basting (loose stitching) 8
bellows pockets 193
belts *see* waist belts
bespoke tailoring 21, 22, 59
bias grain 57
bib shirt 138–47
body growth 55
  see also grading
body mapping 24
  see also 3-D body scanning technology
bootcut silhouette 199
boundary lines 24, 36
box-pleat 192–93
branding 14, 20, 31, 68, 71
break point 273
breast pockets 106, 107, 118, 121, 221–22, 224, 225, 257, 262–63, 272, 278–79, 292
Browne, Thom 11, 12–13
button stand 162, 163, 190

C. P. Company 11
Cambridge boating collar 64
capes 8
cargo pants 186–95
cargo pockets 188, 193
cassocks 8
casual styles 14, 63, 67, 95, 97:
  jackets 67, 220–31;
  shirts 62, 104–15, 135
chinos 158–67
club collar 64
coat linings 66, 248, 249–50
coats 7, 8, 14, 232–51
coin pocket 201, 273, 280
collar shapes 62–63, 64
collar stands 62, 64, 108, 120, 132, 298–99;
  hidden 62, 227–28, 236, 238, 275;
  patterns 84, 122, 133, 228, 238, 240, 275, 299
collars 50, 63–64, 84, 108, 120, 122 132–33;
  convertible 62, 227–28, 236, 238–40, 273, 275, 298–99;
  mandarin 62, 142–43
  see also neck sizes
compasses 18
computer-aided design (CAD) 7, 68–70
computer-aided manufacture (CAM) 68
computer-aided patternmaking 14, 22, 68–69
concealed pockets 65, 121
convertible collars 62, 227–28, 236, 238–40, 273, 275, 298–99
coronal plane 24
Coutts, J. 10
cross grain *see* horizontal grain
crotch level 45–47, 49, 61
  see also dropped crotch
crotch measurements 28, 33, 45, 58
cuff guards 67, 112, 113–14, 124–25, 146
cuff hemlines 111, 123, 136, 144, 245
cuff point 265, 285
cuff styles 67
cuff vents 246, 266, 285–86
cuffs 44, 113, 124, 145, 285–86;
  ribbed 86, 101, 174

Darts 105, 119, 127, 151, 188, 236–37, 253, 272
denim jacket 220–31
design development 36–39;
  and technology 14, 68–71
design development patterns 38
design drawings 20, 22
designer patterns 38
digital grading 70
digitizing patterns 69–70
double-breasted styles 233, 268-87
doublets 8
drafter's pencils 18
draping 8, 20
drawstrings 174, 304, 306–7
dress forms 30, 49, 71
drill holes 51
drop 31
dropped crotch 159, 160, 169, 176, 187
dyeing 60

Ease 58, 59, 95;
  for knitted fabrics 78, 85;
  applied to linings 66, 249, 283, 300, 313, 314;
  applied to sleeves 43, 59, 95, 110, 135, 144, 214, 244, 264, 284;
  applied to pants 171
  see also darts; pleating
elasticated gathering 174, 209, 213
elbow patches 297
Engineered Garments 14
English neckline 63
envelope pockets 221–22, 224, 225, 295
epaulets 134, 243–44
eyelet punch *see* pattern drill

Face*, The* 14
facings: cuff 266, 286;
  fly 153, 162, 179, 190, 191;
  front 240, 259, 260, 274, 276, 291;
  hem 66, 209, 213, 234, 260, 290, 304, 306;
  hood opening 100;
  neck 209, 210, 212, 213, 249, 261, 277, 278, 311, 312;
  placket 77, 83, 304, 305;
  pocket 93, 107, 121, 155–56, 165, 170, 295;
  sleeve 246;
  vent 276;
  waistband 194
fit models 31
fitting 61
fleece 78
flies 151, 153, 159, 162–63, 169, 179, 180, 188, 190, 198, 200;
  extension 154, 157, 166, 179, 184, 191, 200, 203
French curves 18, 19, 41
French-style neckline 63
funnel collar 63

Garsault, M. de 8
geometry curves 18, 19
GQ 14
grading 52–55, 70
grainlines 46, 49, 51, 57
gusseted pockets 65, 292

Haute couture 20
hemlines: baseball 117, 127;
  cuff 111, 123, 144, 245, 265, 285; elasticated 213;
  facings 234, 304, 306;
  shaping 75, 127, 140, 207, 233, 253, 255, 269, 271, 273, 303;
  sleeve 44, 78, 214, 229, 230, 246, 287; pant 46
hems 66
high-waisted pants 150–57
hip curves 18, 19
hooded sweatshirt 88–103
hoods 88, 98–100, 216–19, 310–13
horizontal grain 57
human anatomy 24–27

Illustrations *see* design drawings
Improved Tailor's Art, The (Jacksons) 10
industrialization 8
inside leg 28, 33, 45, 46, 47
Internet, the 68
Italian loose neckline 63

Jacket linings 66, 282–83, 287, 300–1, 313–14
jackets 8, 11, 61, 66;
  denim 220–31;
  double-breasted 62, 233, 268–87;
  single-breasted 63, 252–67
Jacksons, J. 10
jeans 196–203
jersey 78
jetted pockets 65, 272, 281

"**K**ASANE" 8
Kawakubo, Rei 14
knitted fabrics 58, 59, 78, 84, 85

L*'Art du Tailleur* (Garsault) 8
landmark points 25–27, 70
lapels 236, 256, 271
lay planning 70
layering 8
Lemonnier, Elisa 10
Libro de Geometría Práctica y Traça (Alcega) 8
line 62
linings 66;
  coat 66, 248–50;
  hood 313;
  jackets 66, 282–83, 287, 300–1, 313–14; sleeve 66, 247, 291, 301, 314
long-sleeved shirt 104–15
long-sleeved collarless shirt 74–79
lumberjack shirt 116–25

Made-to-measure *see* bespoke
mandarin collar 62, 142–43
Margiela, Martin 14
marker making 70
mass production 10, 22–23, 39
master plans 7, 37–38, 48–51, 74;
  for collars 227–28, 238–39, 275, 298–99;
  for coats/jackets 48, 206–8, 212, 220–21, 233–37, 252–55, 289–90, 302–4, 306;
  for epaulets 243;
  for flies 163;
  for hoods 99, 216, 310–11;
  for pants 150–1, 158, 168–69, 170, 171, 186–88, 197–99
  for pockets 161, 164, 172, 178, 181, 191, 201–2, 211, 222, 241, 262, 278, 291, 295; for shirts/tops 74–76, 80–1, 89–93, 104–6, 116–19, 126–28, 138–39, 140;
  for shorts 176–77, 180;
  for sleeves 48, 77–78, 85–86, 94–97, 110–12, 123, 134-36, 143–44, 214, 229–30, 244–45, 264–65, 269–73, 284–85, 296–97, 308–9;
  for storm flaps 243;
Maxima Poplin 7
measurement taking 7, 8, 21, 24–29, 40–1; armholes 41, 42;
  collars 236;
  hoods 98–100, 217–18, 310;
  inside leg 46, 47;
  neck 26, 41, 61, 62, 227;
  necklines 41, 120;
  pants 45–47
  sleeves 42–44, 59, 94, 244, 264, 284;
  tools for 10, 18, 26–29;
  see also grading; size charts
median plane 24
military styles 8, 11, 12
mirroring 37, 38, 50
Miyake, Issey 8, 14
modeling *see* draping
moulage *see* draping
muff pockets 93, 94
muslins 21, 30, 37, 38, 61, 62, 64

Neck sizes 32, 33, 62, 98, 120, 132, 227
necklines 41, 63–64
notched waistbands 156–57, 166, 171, 174
notcher 18
notches 38, 48, 51, 70, 156, 171, 174, 238, 246;
  alignment 91, 92, 156, 216, 218, 223, 226, 229, 231;
  collar 258, 273;
  shoulder 299, 310

Officer collar 64
Owens, Rick 14

Pant slopers 37, 45–47;
  creation of master plan from 49, 150, 168, 170, 176, 180, 186, 197;
  grading 54–55
pants: cargo pants 186–95;
  chinos 158–67;
  high-waisted 150–57;
  jeans 196–203;
  sweatpants 168–75;
  see also shorts; pant slopers
parka 302–15
patch fly 180
patch pockets 65, 129–30, 192, 202, 209, 211, 257, 263–64, 291–92
pattern slopers (blocks) 7, 26, 36;
  adapting 56
  see also pant slopers; sleeve slopers; upper body slopers
patternmaking 20, 36–39;
  history of 8–14;
  use of computers in 14;
  tools/equipment for 18–19, 39;
  training in 7, 8, 10
pattern design systems (PDS) 70–1
pattern drill 18, 19
pattern hole punch 18
pattern hooks 18
pattern masters 18, 19
pattern tracing 50–1
  see also under individual patterns
pattern weights 18
patterns: bib shirt 138–47;
  anorak 206–19;
  cargo pants 186–95;
  chinos 158–67;
  denim jacket 220–31;
  digitizing 69–70;
  high-waisted pants 150–57;
  hooded sweatshirt 88–103;
  jeans 196–203;
  long-sleeved shirt 104–15;
  long-sleeved collarless shirt 74–79;
  lumberjack shirt 116–25;
  parka 302–15;
  polo shirt 80–7;
  safari shirt 126–37;
  shorts 176–85;
  sweatpants 168–175;
  trench coat 232–51;
  waxed jacket 288–301
Peter Pan collar 63
pins 18
piping 264
pivoting 38, 56, 237
plackets 76, 81, 121;
  concealed 65, 139;
  facings 77, 83, 305;
  grown-on 65, 106, 127;
  sewn-on 65, 117, 127, 131, 221, 222, 290, 293, 304
pleating 141–42, 159, 169, 170, 176, 197, 199
pocket bearer 162, 192, 201
pocket flaps 121
pocket stands 65
pocket welts 65, 151, 153, 154–55, 156, 160, 164–65, 170, 172, 181–82, 221, 224, 234, 241, 257, 263, 272, 274, 279, 280
pockets 65, 93, 241–42, 304, 308;
  bellows 193;
  breast 106, 107, 118, 121, 221–22, 224, 225, 257, 262–63, 272, 278–79, 292;
  cargo 180, 193;
  coat 234, 241–42;
  coin 201, 273, 280;
  concealed 65, 121;
  envelope 221–22, 224, 225, 295;
  gusseted 65, 292;
  jeans 201–2;
  jetted 65, 272, 281;
  muff 93, 94;
  pant 151–53, 154–55, 159, 160–62, 163–65, 169, 170, 172–73, 191–93
  patch 65, 129-30, 192, 202, 209, 211, 257, 263–64, 291–92;
  shorts 178–79, 181–82;
  side 281;
Poell, Carol Christian 14
polo shirt 80–87
posture 31, 61
Practical Guide for the Tailor's Cutting-Room (Coutts) 10
Prêt-à-porter *see* ready-to-wear
production-line processes 20-23
production patterns 39
proportion 62
Prostyle 22

QC (Quality Control) 23

Raeburn, Christopher 14
raglan shoulder shaping 290
raglan sleeves 89, 90–91, 94–97, 297–98
ready-to-wear 10, 14, 20, 22–23, 31, 52
ribbing 174
roll collar 62, 258, 273
  see also convertible collars
roll line 273
rulers 18, 19, 26

Safari shirt 126–37
sailor collar 62, 63
sample size 22 *see also* sizing systems
samples 22, 38
scalpels 18
Science Completed in the Art of Cutting (Walker) 10
scissors 18, 19
seam allowances 18, 38, 50, 51, 60
seam ripper 18, 19
seams 18, 136
self-facing strips 155, 156, 165, 170, 181, 182
semibespoke 21, 22
set squares 18, 19, 26
set-in sleeve 67, 123–24
sewing 23
shaped pockets 241–42
shirts: long-sleeved 104–25, 138–47;
  short-sleeved 126–37
  see also polo shirt
shorts 176–85
shoulder slope 31, 61, 255, 270
shrink test 196
shrinkage 18, 60, 196
side pockets 281
silhouettes 7, 8, 10, 11, 20, 31, 62;
  fitted 119, 237, 253;
  leg 171, 187, 198–99
single-breasted styles 252–67
size charts 7, 10–11, 20, 24, 32–33;
  standardized 10–11, 22, 37
  see also grading; measurement taking; sizing systems
sizing systems 10–11, 52
  see also grading; neck sizes; 3-D body scanning technology
slash and spread 38, 56, 239
sleeve cap ease 43, 59, 95
sleeve caps 43, 66, 78, 291;
  adjusting 95, 111, 135, 287, 301;
  and knitted fabrics 85
sleeve slopers 37, 42–44;
  grading 54;
  creation of master plan from 48, 77, 85, 94, 110, 123, 134, 143, 214, 229, 244, 264, 269, 284, 296, 308
  see also under individual patterns
sleeve linings 66, 247, 291, 301, 314
sleeves 66–67, 296, 308–9;
  hemlines 44, 78;
  long 77–79, 89, 104, 110–15, 123–24, 143–45, 214–15, 229–31;
  raglan 89, 90–91, 94–97, 297–98;
  short 85–86, 126–37, 134–37;
  tailored 67, 244–47, 264–66, 284–87;
  two-piece 37, 67, 229–31, 284–87
  see also sleeve slopers
spandex 78
standardization of sizes 10–11, 22, 37
storm flap 243–44
straight collar 62
straight grain 57
suspenders 156
Suzuki, Daiki 14
sweatpants 168–75

Tailor's chalk 18, 19, 26
tailored shorts 176–85
tailored sleeves 67, 244–47, 264–66, 284–87
tailoring 8, 10, 21;
  training in 10
  see also bespoke tailoring
Takada, Kenzo 14
tape measures 10, 18, 19, 26
Taylor's Complete Guide or *Comprehensive Analysis of Beauty and Elegance in Dress* 8
technology:
  and design development 14, 68–71;
  and measurement taking 29, 30, 52, 68, 71;
  and textiles 11, 14
3-D body scanning technology 29, 30, 71
3-D flattening technology 70–71
Throup, Aitor, 14
tolerance 59
tools 18–19, 26, 39
top collars 108, 120, 122, 132–33, 229, 240
tracing wheel 18, 19
transverse horizontal planes 24
trench coats 7;
  pattern 232–51
trend research 22
turned-down collar 62, 63
turtleneck collar 63
two-piece sleeves 37, 67, 229–31, 244, 284–87

Undersleeves 229, 230–31, 246, 265–66, 285, 286
upper body slopers 20, 21, 36–37, 40–41;
  creation of master plans from 48, 74, 80, 89, 104, 116, 126, 138, 140, 206–8, 212, 220, 233, 252, 289, 302, 306; grading 53
Uomo Vogue 14

Van Beirendonck, Walter 14
vents 234, 249, 250, 261, 276–77, 283, 290, 293, 294
  see also cuff vents
virtual avatars 14, 71
volume, adding/removing 61, 207, 208, 212, 272, 289;
  to coats/jackets 209, 235, 253, 254, 257, 260, 271, 272, 276, 303, 306; hoods 311; to pants 170, 189; to sleeves 67, 96;
  see also pivoting; pleating; slash and spread

Waist belts 290, 293, 294
waistband tab 226
waistbands 102, 184–85, 194, 203, 226; notched 156–57, 166, 171, 174;
  sizing 174
waistlines 45, 46, 48;
  and darts 47, 49, 105, 119, 127, 129, 154, 169, 171, 181, 253, 257, 260;
  high 150–57
Walker, W. 10
Watanabe, Junya 63
waxed jackets 288–301
welt stands 65, 221, 241
  see also pocket welts
welts *see* pocket welts
WGSN 22
widespread cutaway collar 64
wingtip collar 64
wool *see* knitted fabrics
Woolrich Woolen Mill 7

Yamamoto, Yohji 11, 14, 31
yokes:
  back 106, 107, 119, 121, 128, 187, 189, 199, 200;
  front 118, 121, 128, 221, 223, 229

Zippers 153, 211, 295, 311

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